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VOUGHT CORP DALLAS TX MAINTAINABILITY ENGINEERING GROUP

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MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY.(U)

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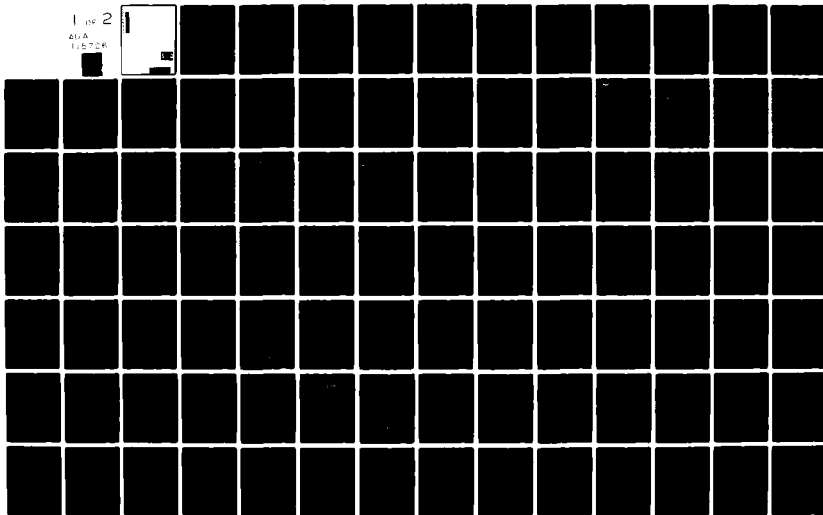
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✓ 20. ABSTRACT (continued)

dependency factors, and developing a rating system which would evaluate the data requirements' value to a new procurement.

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PREFACE

This report was prepared by Vought Corporation, Maintainability Engineering Group, Aircraft Development Engineering, Dallas, Texas. The study was conducted under Contract N00140-79-C-0445, Task LTV 79-11, for the Naval Air Systems Command, Maintenance Policy and Engineering Division (Code AIR-4111) with Mr. Richard W. Sabo as coordinator.

This report constitutes the final report for Contract N00140-79-C-0445, Task LTV 79-11.

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MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY

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1.0 INTRODUCTION

1.1 Objective/Purpose

The procurement of a weapons system by the Navy or any Department of Defense activity is a long, laborious process which begins with concepts and needs, evolves into development hardware, and finally involves the purchase of a specified quantity of the weapons system. During this process, the Navy requires of itself and its contractors a significant amount of information. This information ranges from design information to operational information to logistics support information and to cost information. Information on maintenance engineering is a specific area within the general areas above and is the area on which this study has concentrated.

The purpose of the Maintenance Engineering Contract Requirements Study was to examine, analyze, and make recommendations for changes to the information or data requirements which are levied by specification by the Maintenance Policy and Engineering Division of the Naval Air Systems Command (NAVAIR) during the procurement cycle of a weapons system. The study objective also involved developing a methodology for identifying the maintenance requirements that are most apt to be imposed on a new weapons system, identifying specification and data item interrelationships, redundancy, and dependancy factors, and developing a rating system which would evaluate the data requirements' value to a new procurement.

1.2 Background - Maintenance Engineering Requirements

Maintenance engineering data is used by NAVAIR to establish, evaluate, and promulgate its maintenance policy requirements. To acquire this data from its contractors or from Navy organizations, NAVAIR utilizes a series of

specifications and Data Item Descriptions (DID's). Specifications and DID's dealing with the integrated logistics support of the weapons system, the maintainability of the design, maintenance considerations, maintenance plans, reliability of the equipment, personnel skills, quantities of personnel, and personnel training requirements are but a few of the documents NAVAIR has generated which deal with the overall maintenance engineering effort.

Although the Navy coordinates its activities concerning the issuance of specifications, and, even with an on-going Department of Defense (DoD) program to review DID's, the number of specifications and Data Item Descriptions pertaining to maintenance engineering continues to grow. Coupled with this growth, NAVAIR has experienced, like all Federal agencies, cuts in operating budgets and reductions of personnel levels. Because of the increased workload and the growing number of documents, NAVAIR's Maintenance Policy and Engineering Division finds itself with an array of requirements which are disjointed in certain areas and void in other areas, outdated, cancelled, or expired, and for which little or no time phasing information exists.

With several new procurements envisioned in the foreseeable future, the need to reduce data requirements to only those which are required and affordable becomes more pressing. To achieve the goal of affordable, required data, this study was undertaken.

1.3 Synopsis of Study Findings

When the study began, the maintenance engineering contract requirements used by NAVAIR's Maintenance Policy and Engineering Division were expected to be numerous both in the number of specifications and in the quantity of Data Item Descriptions. This assumption proved to be correct. However, the number

of specifications and DID's pertaining to maintenance engineering was underestimated. The large quantity of maintenance engineering contract requirements and the apparent pervasive interrelationships between them quickly went beyond the scope of the study. To make the study more manageable, the authors and sponsors agreed to limit the scope to six of the more significant NAVAIR specifications and to their attendant DID's.

In summary, the evaluation of the specifications and DID's revealed considerable duplicity in deliverable requirements, a network of interrelationships between DID's, a general lack of consistency in preparation of the DID's, and the requirement to perform DID's which are no longer current or valid. The study looked at each of these findings, and data are presented which show the impact of each area the study examined.

Time phasing for the DID's was difficult to establish because of a lack of a formal Contract Data Requirement List (CDRL) audit trail for major Navy aircraft programs. The time phasing requirements looked at in this study, are discussed in Section 5.0.

Even more ambiguous was the cost impact assessment made for each deliverable data requirement. Relative cost impact could not be determined since costs vary with the complexity of the weapons system, Government funding constraints, the absence of separately quoted prices in the contract, and individual contractor personnel assignment and pricing structures.

1.4 Use of the Study

The study results should be used in a threefold manner. First, on those specifications and Data Item Descriptions analyzed for the study, recommendations made herein should be instituted to correct or change the current state

of those items to bring them up-to-date. Second, the recommendations and general study comments made on the analyzed data should be considered for similar application to specifications and DID's not evaluated. Lastly, the study results should be kept in mind when creating new specifications and DID's to avoid the problem areas revealed in this study.

2.0 APPROACH

2.1 General Approach

The first step taken in performing the study was to determine the number of specifications and Data Item Descriptions applicable to Maintenance Engineering Contract Requirements. To accomplish this, the Department of Defense's "Index of Specifications and Standards" and the "Acquisition Management Systems and Data Requirements Control List" (AMSDL) were reviewed.

The resultant list of applicable documents was extensive in scope and length. To accomplish a detailed analysis on this many items far exceeded the limits of the study. As a compromise, six specifications and all their associated DID's were chosen for study. The criteria for selecting these specifications rested on two points: those specifications most often specified and that amount of information which could be readily evaluated within the scope of the study. The specifications chosen for analysis were:

1. AR-21C, Ground Support Equipment Aeronautical Requirements.
2. AR-30A, Integrated Logistics Support Program for Aeronautical Systems and Equipment.
3. MIL-STD-1388, Logistics Support Analysis.
4. MIL-STD-1390B, Level of Repair.
5. MIL-STD-2080B, Maintenance Plan Analysis for Aircraft and Ground Support Equipment.
6. NAVAIR 00-25-400, Analytical Maintenance Program Guide for the Application of Reliability Centered Maintenance for Naval Aircraft.

The analysis of the Maintenance Engineering Contract Requirements fell into the areas of specifications/DID relationships, DID interrelationships, deliverable items analysis, data element analysis, cost magnitude investigation, and contract time phasing. A series of matrices, charts, and tabular information was generated to depict this information. These data are presented as tables within the text or as appendices to this report and are discussed in detail in subsequent sections.

3.0 SPECIFICATION AND DATA ITEM DESCRIPTION RELATIONSHIPS

3.1 Data Item Description Search

To identify the Data Item Descriptions the study was to concentrate on, the six source documents noted in paragraph 2.1 were reviewed. In addition, the current version of the Department of Defense "Acquisition Management Systems and Data Requirements Control List" (AMSDL) was reviewed to document cancelled DID's, DID currency, nomenclature, Office of Primary Responsibility (OPR), and to identify DID's now associated with the source documents which were not associated with the document when it was last revised. From this information, a matrix was developed, Table 3.1, which depicts in DID number sequence the 105 DID's identified for study. To assist in reading Table 3.1, the various column headings are explained in Figure 3.1. Data Item Description numbers other than those identified as peculiar to this study are mentioned in the study text, tables, figures, and appendices but do not appear in this table. The additional DID references occurred when a DID audit trail encountered the alien number. That DID was reviewed, to help in the analysis, and then omitted from the remainder of this study.

In addition to showing the DID number, title, and other pertinent information, Table 3.1 indicates where duplicity in contract requirements exists or can exist in a contract requiring compliance with the source documents reviewed in this study. Table 3.1 also reflects the AMSDL information. If a DID was indicated as being applicable to a source document by the AMSDL and that DID was not mentioned in the source document, it is annotated in both the applicable source document column and in the "AMSDL ONLY" column. Cancelled DID's listed in the AMSDL and applicable to this study are marked by an asterisk in the "AMSDL CANCEL" column.

MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 1 DATE 05/20/80

REQUIRED BY

A	A	M	M	M	A	A	C
R	R	S	S	S	00-	M	M
3	2	1	1	2	25-	S	L
0	1	3	3	0	400	D	C
A	C	8	9	8	L		
		8	0	0			

OFFICE
OF
PRIMARY
RESPONS

DOC
DATE

EXP
DATE

DID NUMBER

TITLE

CONTRACTOR RECD CODING LISTS RECDMS - SUBSTANTIATING DATA

DI-M-2029 REPORT, ANALYSIS, TASK AND SKILL

DI-M-2052 REPORT, TECHNICAL MANUAL STATUS

DI-V-2075 CERTIFICATE OF PRIOR SUBMISSION

DI-V-2076A COMMON AND BULK ITEMS LIST

DI-V-2077A DESIGN CHANGE NOTICE (DCN)

DI-V-2078A PROVISIONING PARTS LIST

DI-V-2079A REPAIRABLE ITEMS LIST

DI-V-2081A LONG LEAD TIME ITEMS LIST

DI-L-2082A REPORT, LOR (LEVEL OF REPAIR) SUMMARY

DI-L-2083A REPORTS, LOR (LEVEL OF REPAIR) STATUS

DI-L-2084A PLAN, LOR (LEVEL OF REPAIR) PROGRAM

DI-L-2085A REPORT, LOR (LEVEL OF REPAIR) ANALYSIS

DI-L-2100 LIST, ENGINEERING DOCUMENT REQUIREMENTS (EDRL)

DI-L-2155 REPORT, LOR (LEVEL OF REPAIR) INPUT DATA

UDI-AL-5023 SUPPORT EQUIPMENT LIST (LIMITED TO HARPOON SYSTEM)

DI-S-5376 SUPPORT ANALYSIS REPORT

DI-A-6102A SUPPORT EQUIPMENT PLAN (SEP)

DI-P-5165A REPORT, SUPPORT EQUIPMENT DELIVERY SCHEDULE/DELINQUENCY

DI-S-6169 OPTIMUM REPAIR LEVEL ANALYSIS (ORLA) REPORT

DI-S-6171A LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA

DI-V-6103A LIST, CONSOLIDATED SUPPORT EQUIPMENT (CSEL)

DI-V-5105A STANDARD/MODIFIED HAND TOOLS LIST

06DEC76 MAT-042

30JUN72 AIR-04A4

11AUG72 SA

03JUL73 SUP-0423

03JUL73 SUP-0423

03JUL73 SUP-0423

03JUL73 SUP-0423

03JUL73 SUP-0423

05SEP75 MAT-0422

05SEP75 MAT-0422

05SEP75 MAT-0422

05SEP75 MAT-0422

15OCT73 SEA-045X

05SEP75 MAT-0422

18JAN71 AIR-41042

03JAN74 NSA

08FEB77 MAT-042

08FEB77 MAT

30APR71 ANC

25FEB77 DARCOM

25MAY77 NMC

08FEB77 MAT-042

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TABLE 3.1-2
MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

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DID NUMBER SEQUENCE

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A A M M M M A A D D
R R S S S S O O M M A A
3 2 1 1 2 2 5 5 S S L L
O 1 3 3 3 0 4 0 0 D D Y Y
A C 8 9 8 1 L L
8 0 0 0 L L

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DID NUMBER TITLE

DI-S-7017 LOGISTIC SUPPORT ANALYSIS (LSA) PLAN

UDI-A-21000B PLAN, GROUND SUPPORT EQUIPMENT (GSEP)

UDI-E-21001E DATA RECOMMENDATION, GROUND SUPPORT EQUIPMENT (GSEED)

UDI-L-21002D LIST, CONSOLIDATED GROUND SUPPORT EQUIPMENT (CGSEL)

UDI-L-21003C LIST, STANDARD/MODIFIED HAND TOOLS (LSMHT)

UDI-S-21004C ILLUSTRATIONS, GROUND SUPPORT EQUIPMENT (GSEL)

UDI-T-21005C SUMMARY, CALIBRATION/MEASUREMENT REQUIREMENTS (CMRS)

UDI-P-21006D DATA, INSTALLATION, GROUND SUPPORT EQUIPMENT (GSEID)

UDI-F-21007C REPORT, GROUND SUPPORT EQUIPMENT END ITEM FUNDING (GSEIFR)

UDI-L-21008C REPORT, GROUND SUPPORT EQUIPMENT DELIVERY SCHEDULE/DELINQUENCY

UDI-F-21009C LIST, PROCED GROUND SUPPORT EQUIPMENT (PGSEL)

UDI-F-21010C EXHIBIT, GROUND SUPPORT EQUIPMENT PROPOSED REVISION

UDI-L-21011 PROPOSAL, INTEGRATED LOGISTIC SUPPORT SECTION

UDI-L-21012 INTEGRATED LOGISTIC SUPPORT PLAN (ILSP)

UDI-L-21013C PLANS, MAINTENANCE

UDI-L-21013C PLANS, MAINTENANCE

UDI-R-21014 RECORD, LOGISTIC SUPPORT ANALYSIS

UDI-R-21015 REPORT, LOGISTIC ENGINEERING PROGRESS

UDI-V-21016 ITEMS, LIST OF THROW-AWAY

UDI-R-21017 PLAN, INT LOG SPRT (ILSP) LOG SPRT ANALYSIS SECTION

UDI-M-21018 PLAN, CETS (CONTRACTOR ENGRG & TECH SERVICES) REQTS

UDI-M-21019 PLAN, INT LOG SPRT PERSONNEL TRAINING & TRAINING EQUIP SECT

UDI-L-21020 PLAN, INT LOG SPRT (ILSP) TECH MANUAL SECTION

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TABLE 3.1-3
MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 3 DATE 05/20/80

REQUIRED BY
A A M M M NA AO AC
R R S S S OO- MM MA
3 2 1 1 2 25- SL SM
0 1 3 3 0 400 DY DC
A C 8 9 8 L LE
8 0 0 L

DLC NUMBER SEQUENCE

DLC NUMBER TITLE

UD1-M-21021 LIST, TECHNICAL MANUAL DATA (TMDL)

UD1-V-21023 PLAN, INT LOG SPRT (ILSP) SPARES & REPAIR PARTS SECTION

UD1-V-21026A DATA, PROVISIONING SCREENING

UD1-V-21027 INSTRUCTIONS, PROVISIONING LIST FORMAT (NONDELIVERABLE)

UD1-V-21027 INSTRUCTIONS, PROVISIONING LIST FORMAT (NONDELIVERABLE)

UD1-V-21028 LIST, LONG LEAD TIME

UD1-V-21029 LIST, BULK ITEMS/EARLY OVERHAUL AND CRASH DAMAGE MATERIALS

UD1-V-21030 LIST, GROUP ASSEMBLY PROVISIONING (GAPL)

UD1-V-21031 LIST, VENDOR REPAIRABLE ITEMS

UD1-V-21032 LIST, CONSUMABLE MAINTENANCE AND OVERHAUL MATERIAL

UD1-V-21033A DESIGN CHANGE NOTICE (DCN)

UD1-V-21034 REPORT, DELIVERY/DELINQUENCY

UD1-V-21035A SCHEDULE, DELIVERY

UD1-L-21036 SPECIFICATION, ILS DETAIL

UD1-P-21037 DOCT, FACIL REGMTS FOR TYPL SHOREBASED SITES

UD1-P-21038 REPORT, SITE EVALUATION

UD1-P-21039 PLAN, SUPPORT SITE ACTIVATION

UD1-P-21040 DATA PACKAGE, SUPPORT SITE ACTIVATION

UD1-V-21041 PLAN, INT LOG SPRT (ILSP) PREOPER (INTERIM) SPRT SECTION

UD1-V-21042A LIST, SUPPORT MATERIAL (SML), PREOPERATIONAL (INTERIM)

UD1-V-21043A REPORT, CONSUMPTION/USAGE

UD1-V-21044 REPORT, TRANSITION STATUS

UD1-V-21045A REPORT, RESIDUAL ASSET, PREOPERATIONAL (INTERIM)

DOC DATE
31JUL72
31JUL72
30APR74
31JUL72
31JUL72
31JUL72
31JUL72
31JUL72
30APR74
31JUL72
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30APR75
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OFFICE OF PRIMARY RESPONDS

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TABLE 3.1-4
MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

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A A M M M M A A A C
R R S S S S O O- M M M
3 2 1 1 2 2 5- S L S W
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A C 8 9 8 L L L
8 0 0 0 8

DID NUMBER SEQUENCE

DID NUMBER TITLE OFFICE OF PRIMARY RESPONSE DATE EXP DATE

UDI-S-21047 DATA, REQUIREMENTS, ILS EVALUATION, PHASE II - III X 31JUL72 AIR-401

UDI-S-21048 PLAN, DETAILED, ILS EVALUATION, PHASE I-II X 31JUL72 AIR-401

UDI-S-21049 PLAN, INT LOG SPRT (ILSP) EVALUATION SECTION X 31JUL72 AIR-401

UDI-L-21050 LIST, ITEMS RECG SPEC HOLG BET/WITHIN MAINT - SUPPLY DEPTS X 31JUL72 AIR-412

DI-L-21051A LIST, GENERAL PACKAGING, HOLG, STORAGE, - TRANSP DATA X 25JAN78 AIR-412

UDI-L-21052 FLOW DIAGRAM, LOGISTIC X 31JUL72 AIR-412

UDI-L-21054 PLAN, INT LOG SPRT (ILSP) PKG, HOLG, STORAGE - TRANSP SECTION X 31JUL72 AIR-401

UDI-E-21055 ANALYSIS, SITE LOADING IMPACT X 31JUL72 AIR-401

UDI-E-21057 WORKLOAD, RETROFIT INCORPORATION X 31JUL72 AIR-410

UDI-S-21060 TEST, EVAL/DR DEMO TEST ARTICLE CONFIG X 31JUL72 AIR-410

UDI-E-21064 PLAN, INT LOG SPRT (ILSP) ENGRG CHANGE SPRT SECT X 31JUL72 AIR-401

UDI-E-21065 PLAN, INT LOG SPRT DEPT - INTER REWORK SPRT SECT X 31JUL72 AIR-401

UDI-L-21069 CANDIDATE LIST, ANALYTICAL REWORK PROGRAM (ARP) X 31JUL72 AIR-411

UDI-S-21070 PLAN, INT LOG SPRT SITE/UNIT ACTIVATION SECT X 31JUL72 AIR-401

UDI-S-21078 DIAGRAMS, ENGINEERING AND PRODUCTION EVENT/FLOW X 31JUL72 AIR-401

UDI-S-21079 MANUAL, CDC CODE X 31JUL72 AIR-401

UDI-S-21080 DOCUMENTATION, CDC PROGRAM X 31JUL72 AIR-401

UDI-S-21081 TAPE FILE, SPECIAL X 31JUL72 AIR-401

UDI-S-21082 PLAN, INT LOG SPRT CONTRACTOR DATA COLLECTION SECT X 31JUL72 AIR-401

UDI-P-21083 PLAN, INT LOG SPRT (ILSP) FACILITIES SECTION X 31JUL72 AIR-401

UDI-S-21084 PLAN, TRAINING AND TRAINING EQUIPMENT REQUIREMENTS X 31JUL72 AIR-401

UDI-R-21131 REPORT, RELIABILITY AND MAINTAINABILITY PROGRAM X 09AUG73 AIR-5205

UDI-V-21144A SPRT MATERIAL LIST FOR OPNL FLT TRAINER (LTD TO F-14A) X 03JAN72 AIR-4132

FAJL 3.1-5
MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 5 DATE 05/20/80

REQUIRED BY

A A M M M NA AD AC
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3 2 1 1 2 25- SL SM
0 1 3 3 0 400 DY DC
A C 0 9 8 L
0 0 0 L
B

UID NUMBER SEQUENCE

DID NUMBER TITLE

UD1-A-21190 PLAN, INT LOG SPRT GROUND SPRT EQUIPT SECTION

UD1-S-21202 ANALYSIS DATA, MAINTENANCE ENGINEERING

UD1-S-21202 ANALYSIS DATA, MAINTENANCE ENGINEERING

UD1-L-21320A PLAN, OPERATIONAL LOGISTICS SUPPORT (OLSP)

UD1-L-21395 PLANS, MAINTENANCE, FOR GSE

UD1-L-21448 LIST, CONSLO GSE FOR FOREIGN MIL SALES (FMSCGSEL) (LTD TO FMS)

UD1-L-21499 DATA, MAINTENANCE PLAN ANALYSES

UD1-L-22332C PLAN, PROGRAM, LEVEL OF REPAIR (GOVERNMENT ANALYSIS)

UD1-L-22330A REPORT, PARTS AND MATERIAL ISSUE

UD1-L-22341A REPORT, LOGISTICS DESIGN APPRAISAL (LDA)

UD1-L-23404 COUNT-MEA SYS EMPTY CABLE REELS REQ, DISP INSTR FOR SHIP MINE

UD1-L-23416 LIST, SHIP INITIAL ON-BOARD OPERG SPACE ITEM INVENTORY

UD1-L-23857A DOCUMENTATION, LOGISTIC SUPPORT ANALYSIS (LSA)

UD1-V-26379 LONG LEAD TIME ITEMS LIST

DI-L-30316 LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA

DI-L-30317 LOGISTIC SUPPORT ANALYSIS (LSA) PLAN

OFFICE
OF
PRIMARY
RESPONS

EXP
DATE

31JUL72 AIR-4014

31JUL72 AIR-401

31JUL72 AIR-401

17FEB76 AIR-401

22OCT74 AIR-417

01APR76 AIR-534

NONE AIR-411

05MAY77 ELEX-4602

01JUL76 ELEX-4042

17AUG76 ELEX-4042

01APR72 SEA-69161

31JUL72 SEA-0461

10APR74 SEA-0461

27JUL73 SEA-04431

09OCT75 AFSC

09OCT75 AFSC

Data Prepared (as of)		Title		Source Document		AMSDL Status	
PAGE 3 DATE 03/20/80		TABLE 3.1-1 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW					
DID NUMBER		DID NUMBER SEQUENCE		DID NUMBER SEQUENCE		REQUIRED BY	
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3.1.1 Source Document/Data Item Description Analysis

Analysis of the 105 DID's specified by the source documents indicates a number of the referenced DID's are no longer current. In addition, fourteen DID's are common to the contractual requirements of AR-30A and AR-21C. Except for these fourteen common DID's, no duplicity in terms of DID number and name is evident in the surveyed specifications.

Appendix A presents the Table 3.1 information sorted by Office of Primary Responsibility and Appendix B contains the same information sorted by subject code letter. The explanation provided for Table 3.1 also is applicable to Appendices A and B.

3.2 Data Item Descriptions

The next logical step after identifying where duplicity exists among the source document DID requirements was to examine the DID's individually and determine the relationship between the DID's and any redundancy by subject and detail requirement content. It became readily apparent that to accomplish this task, a DID interrelationship network was needed since the DID's examined in this study varied as to their complexity, detail, and application.

3.2.1 Data Item Description Interrelationships

To finitely determine all the interrelationships that existed among the DID's, the references that were called out and the data required by the DID were evaluated in detail. The results are portrayed in Figure 3.2, Data Item Description Interrelationship Network.

DI-AP-2208
 CENTER AND COUNCILS
 REPORT, ANALYSIS, TASK AND SKILL
 RESPONSE (FORM 1-1234)
 AR-30A (ch 7)

DI-M-2025
 RPT. ANALYSIS, TASK AND SKILL
 RPL-STD-1200
 DEL LSA L-1-1-1-1
 DATA
 OIL-STD-1200

DI-L-2002A
 RPT. LOR SUMMARY
 RPL-300
 DEL LOR

DI-M-2052
 RPT. TECH MANUAL STATUS
 AR-30A (ch 5)
 DEL
 DI-M-2040
 DI-M-2041
 DI-M-2042
 DI-M-2043
 DI-M-2044
 DI-M-2045
 DI-M-2046
 DI-M-2047
 DI-M-2048
 DI-M-2049
 DI-M-2051

DI-L-2003A/R-21229
 RPT. LOR STATUS
 RPL-300
 LOR

DI-V-2075
 CERTIFICATE OF PRIOR SUB-
 MISSION
 AR-30A (ch 7)
 DEL @/

DI-L-2004A
 PLAN, LOR PROGRAM
 RPL-300
 LOR P_{DEL}

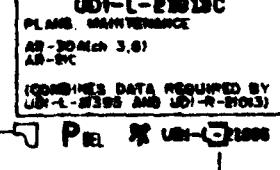
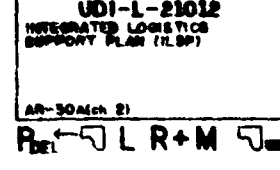
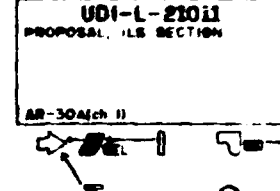
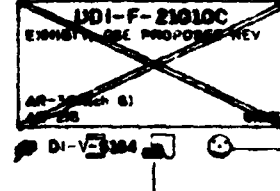
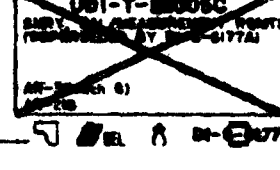
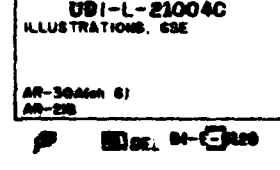
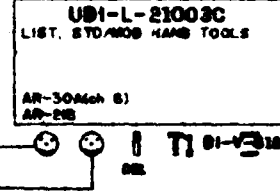
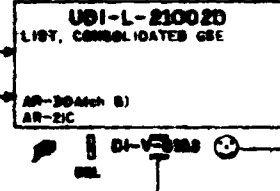
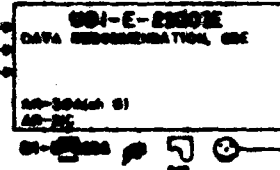
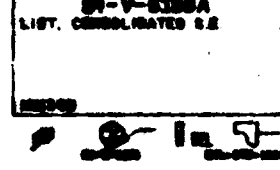
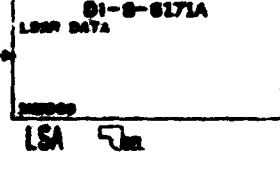
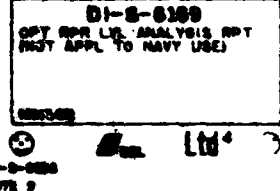
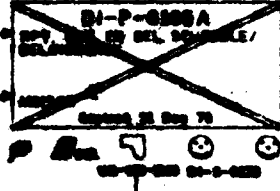
DI-V-2078A
 COMMON AND BULK ITEM LIST
 AR-30A (AMSDL)
 @/ DEL

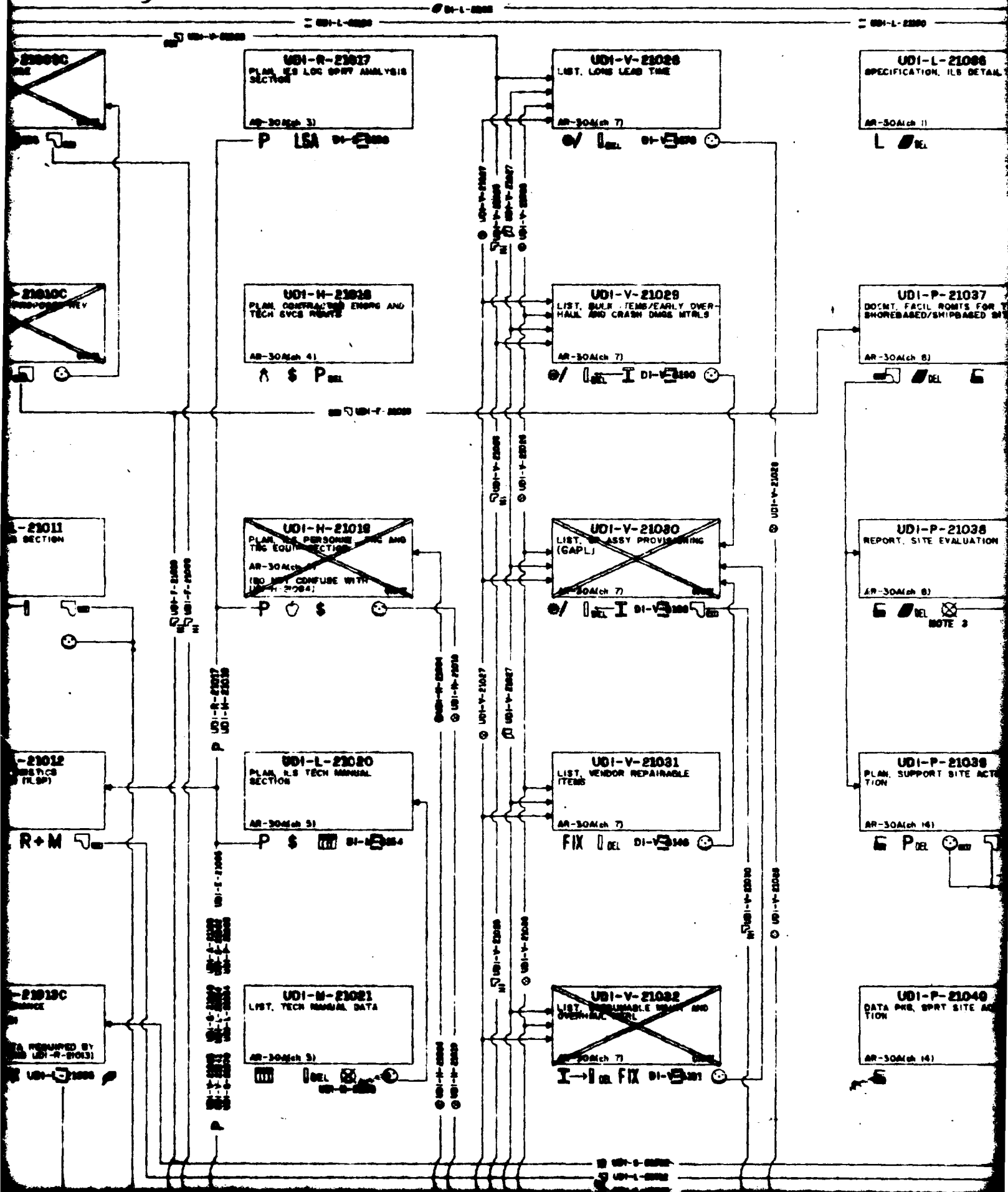
DI-L-2005A
 RPT. LOR ANALYSIS
 RPL-300
 DEL LOR

DI-V-2077A
 DESIGN CHANGE NOTICE
 AR-30A (AMSDL)
 FIX

DI-L-2100
 LIST, ENGINE DOC RIGHTS
 RPL-300
 DEL L

2





UD1-L-21036
LOCATION, ILS DETAIL

AR-30A(Ch 11)

UD1-V-21044
REPORT, TRANSITION STATUS

AR-30A(Ch 11)

FDX DEL
Ltd ²

UD1-L-21054
PLAN, ILS ENG, HDLG, STORAGE
AND TRASP SECT

AR-30A(Ch 11)

P

UD1-S-21054
DIAGRAM, ENGNG, P
EVENT/FLOW

AR-30A(Ch 15)

UD1-P-21037
FACIL ROOTS FOR TYPL
BASED/SHIPBASED SITES

AR-30A(Ch 11)

DEL

UD1-V-21045A
RPT, RESIDUAL ASSET, PREOPNG
(INTERIM)

AR-30A(Ch 11)

DEL Ltd ² DI-142
NOTE 6

UD1-E-21055
ANALYSIS, SITE LOADING IMPACT

AR-30A(Ch 12)

DEL

UD1-S-21055
MANUAL, CDC CODE

AR-30A(Ch 15)

UD1-P-21038
SITE EVALUATION

AR-30A(Ch 11)

DEL NOTE 3

UD1-S-21047
DATA, RQMTS, ILS EVAL,
PHASE II + III

AR-30A(Ch 10)

L DEL

UD1-E-21057
WORKLOAD, RETROFIT INCORP

AR-30A(Ch 12)

UD1-S-21057
DOCUMENTATION, CDC

AR-30A(Ch 15)

DEL

UD1-P-21039
REPORT SITE ACTIVA-

AR-30A(Ch 11)

DEL

UD1-V-21048
PLAN, DETAILED, ILS EVAL,
PHASE I + II

AR-30A(Ch 10)

P DEL L

UD1-S-21060
TEST EVAL/OR DEMO TEST
ARTICLE CONFIGURATION

AR-30A(Ch 12)

UD1-S-21060
TAPE FILE, SPECIAL

AR-30A(Ch 15)

L

UD1-P-21040
A SPRY SITE ACTIVA-

AR-30A(Ch 11)

UD1-S-21049
PLAN, ILS EVALUATION SECTION

AR-30A

P L DI-170

UD1-E-21064
PLAN, ILS ENGNG ENG SPT SECT

AR-30A(Ch 12)

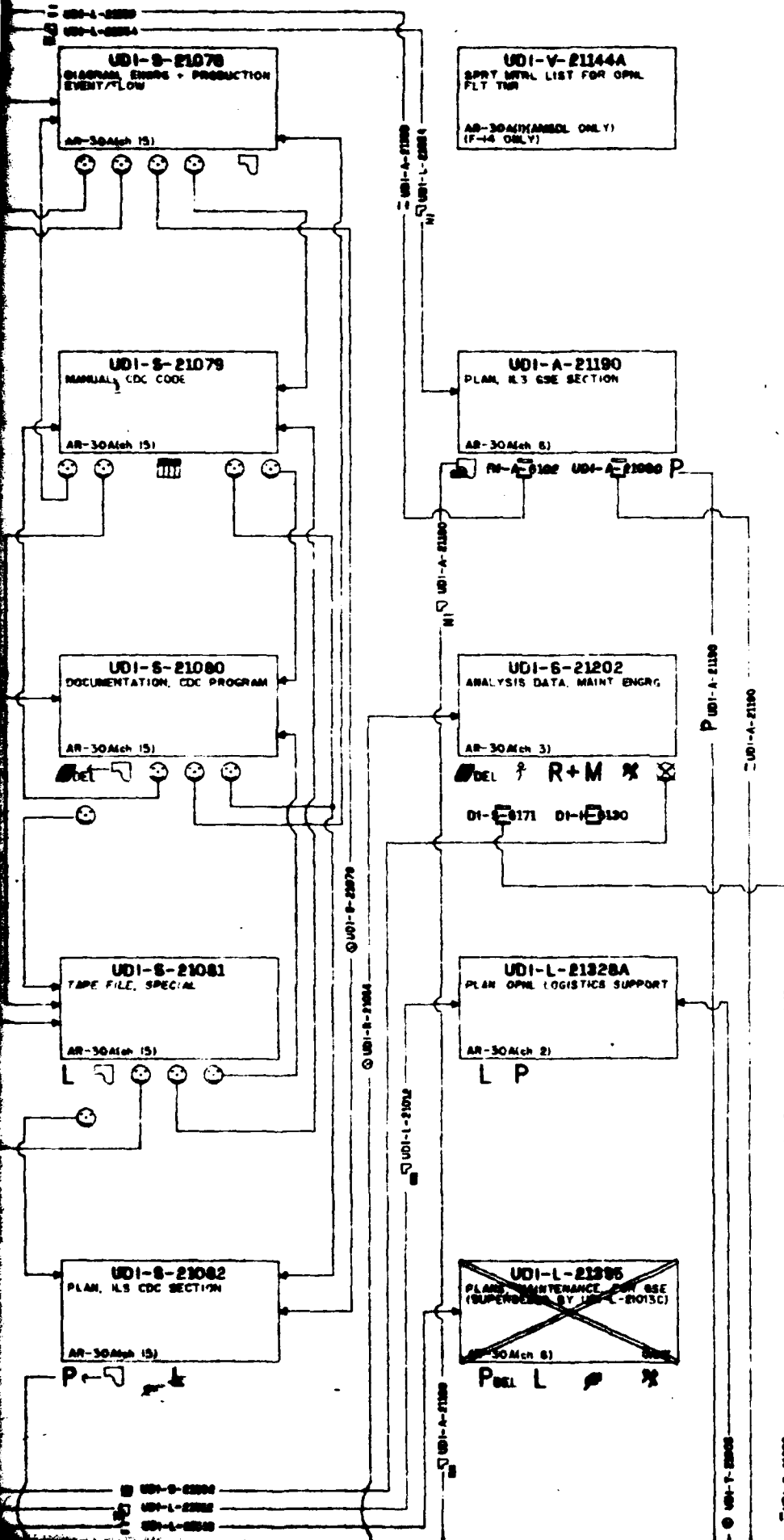
P LSA L

UD1-S-21064
PLAN, ILS CDC SECT

AR-30A(Ch 15)

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15



- LEG
- FIX
 - SA
 - LSA
 - DE
 - FO
 - LO
 - PO
 - LOR
 - R+M
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 - CARR

UDI-L-22338A
RPT. PARTS + MATERIAL ISSUE
MS:308(AMSDL ONLY)
DEL












UDI-L-22341A
REPORT, LOGISTICS DESIGN APPRAISAL
MS:308(AMSDL ONLY)
DEL L R+M
FIX

UDI-L-23404
REQST. DISP INSTR FOR SHIP
NAME CNTR-MEAS SYS EMPTY
CAB F REELS
MS:308(AMSDL ONLY)
DEL FIX

UDI-L-23416
LIST, SHIP INITIAL ON-BOARD
OPRG SPACE ITEM INVENTORY
MS:308(AMSDL ONLY)
DEL


























UDI-L-23857A
DOCUMENTATION, LSA
MS:308
DEL LSA

LEGEND

-  SUPPORT EQUIPMENT - INCLUDES GSE/PGSE
-  HAND TOOLS
-  SPARES/REPAIRABLE ITEMS LISTS
-  HANDLING/TRANSPORTABILITY
-  NEW PARTS - ALL SIZES/ITEMS/LEVELS
-  BOOKS/MANUALS
-  LOGISTICS SUPPORT ANALYSIS RELATED
-  DESIGN/ENGINEERING/CALIBRATION
-  FUNDING
-  LOGISTICS
-  PERSONNEL PLANNING

LOR LEVEL-OF-REPAIR

R+M R+M DATA

-  PROPOSAL EFFORT
-  NOTICE
-  PLAN
-  MAINTENANCE/REWORK
-  SCHEDULES
-  COMPANION/USED WITH/ISSUED CONCURRENTLY/RELATED
-  WHEN YOU SPECIFY THIS DID DO NOT USE OTHER DID OR DELIVER 2 SETS OF LIKE ITEMS
-  DATA
-  INSTRUCTIONS
-  LISTS
-  SUBSTANTIVE CONTENT OF: DO NOT CITE THIS WHEN OTHER DID IS SPECIFIED
-  INDEX CREATED/CROSS REFERENCE LIST
-  CANCELLED
-  REPORT
-  DEL DELIVERABLE
-  LIMITED USE (SEE NOTE X BELOW)
-  REPORT SUBMITTED AS FORM ONLY
-  TRAINING
-  FACILITIES, SITES
-  CERTIFICATE
-  DRAWING
-  OR NI NOT INCLUDED IN DID TEXT
-  SUPPLIES INFORMATION REQUIRED BY ITEM TO LEFT
-  CANCELLED
-  CONNECTOR (CONNECTS SEVERAL DID INTER-RELATIONSHIP LINES)

SEE AND SYMBOL
RICH
RELATIONSHIP ORIGINATES

DI-V-2077A
DESIGN CHANGE NOTICE

AR-30A (AMSDL)

FIX A  B-200

DI-L-2100
LIST. ENVRG DOC RMTS

MS/300

 DEL L A

DI-V-6188A
LIST. CONSOLIDATED S.E.

MS/300

DI-V-2078A
PROVISIONING PARTS LIST

AR-30A (AMSDL)

  DEL DI-V-6189

DI-L-2155/UDI-L-21281A
RPT. LOR INPUT DATA

MS/300

  DEL  

LOR Ltd' 

DI-V-6188A
STD/MOD HAND TOOL LIST

MS/300

  DEL TI  

DI-V-2078A
REPAIRABLE ITEMS LIST

AR-30A (AMSDL)

FIX  DEL DI-V-3146

UDI-AL-5023
SUPPORT EQUIPMENT LIST
(HARPOON ONLY)

AR-30A(II)(AMSDL ONLY)

DI-S-7017
LSA PLAN

MS/300

(REPLACES DI-S-6380)

LSA P DEL

DI-V-2081A
LONG LEAD TIME ITEMS LIST

AR-30A (AMSDL)

  DEL DI-V-6170

DI-S-6376
SUPPORT ANALYSIS RPT

MS/300

A L Ltd'  DEL

UDI-A-210008
PLAN, CSE

AR-215
(INST LISTED AMSDL)

 P DEL DI-A-3182

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UDI-M-21021
LIST, TECH MANUAL DATA
AR-30A(Ch 3)
DEL

UDI-V-21032
LIST, DRAINABLE MOUNT AND OVERHAUL
AR-30A(Ch 7)
I → DEL FIX DI-V-21031

UDI-P-21040
DATA PKG, SPRT SITE ACTIVA-
TION
AR-30A(Ch 14)
P

PLM
AR-30A
P

UDI-V-21025
PLAN, ILS SPARES AND REPAIR
PARTS SECTION
AR-30A(Ch 7)
P L FIX \$

UDI-V-21033A
DESIGN CHANGE NOTICE
AR-30A(Ch 7)
FIX \$ DEL

UDI-V-21041
PLAN, ILS PREOPNL (INTERIM)
SPRT SECTION
AR-30A(Ch 8)
P \$ DI-L-2149

**LIST, ILS
DET/WH
DEPOTS**
AR-30A
P

UDI-V-21026A
DATA, PROVISIONING SCREENING
AR-30A(Ch 7)
DI-V-21027
DI-V-21028

UDI-V-21034
REPORT, DELIVERY/DELIVERY
(SUPERSEDED BY PART SEC XXY
PART 2)
AR-30A(Ch 7)
DI-V-21034 FIX DEL

UDI-V-21042A
LIST, SPRT MTRL, PREOPNL
(INTERIM)
AR-30A(Ch 8)
FIX DEL ILS DI-V-2140

**LIST
+ TRAIL**
AR-30A
P

UDI-V-21027
INSTRUCTIONS, PROVISIONING
LIST FORWARD (NON-DEL)
AR-30A(Ch 7)
DI-V-21028

UDI-V-21035A
SCHEDULE, DELIVERY
AR-30A(Ch 7)
DI-V-21035A FIX DEL

UDI-V-21043A
REPORT, CONSUMPTION/USAGE
AR-30A(Ch 9)
FIX DEL LIL DI-V-2141

PCB
AR-30A
P

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- UDI-T-21009
- UDI-R-21021
- UDI-A-21030
- UDI-S-21008

UDI-S-21040
PLAN, ILS EVALUATION SECTION
AR-30A

P L DI-E170

UDI-E-21064
PLAN, ILS EMERG CHG SPT SECT
AR-30A(Ch 12)

P R LSA L

UDI-S-21062
PLAN, ILS CDC SECTION
AR-30A(Ch 15)

P R L

UDI-S-21060
UDI-L-21062
UDI-L-21063

UDI-L-21060
LIST, ITEMS REQD SPEC HOLDS
DET/WITHIN MAINT + SUPPLY
DEPOTS
AR-30A(Ch 11)

DEL

UDI-R-21014

UDI-L-21017

UDI-E-21066
PLAN, ILS DEPOT + INTER
REWORK SPT SECTION
AR-30A(Ch 13)

P FIX \$ X

DI-L-21063

UDI-P-21063
PLAN, ILS FACILITIES SECTION
AR-30A(Ch 8)

P E \$

UDI-R-21014

UDI-L-21017

UDI-S-21068
UDI-T-21068

DI-L-21061A
LIST, GENL PKG HOLDS, STORAGE
+ TRANSP DATA
AR-30A(Ch 11)

DEL

UDI-H-21069

UDI-H-21064

UDI-L-21069
CANDIDATE LIST, ANALYTICAL
REWORK PROGRAM
AR-30A(Ch 13)

FIX DEL

UDI-H-21084
PLAN, ILS + TNG EQUIPMENT
SECTION
AR-30A(Ch 4)

DI-E121

DI

UDI-S-21070

UDI-L-21062
PLAN, ILS LOGS
AR-30A(Ch 11)

DEL

UDI-S-21070
PLAN, ILS SITE/UNIT ACTIVA-
TION SECTION
AR-30A(Ch 14)

P E

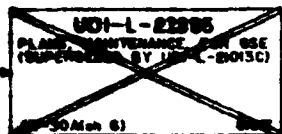
UDI-R-21131
REPORT, R + M PROGRAM

R + M A

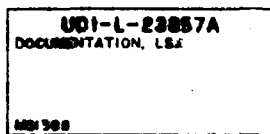
As to DTIC does not
legible reproduction

UDI-T-21060
UDI-S-21060
UDI-S-21060
UDI-S-21060

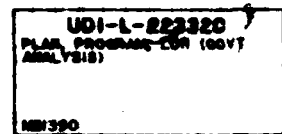
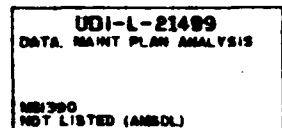
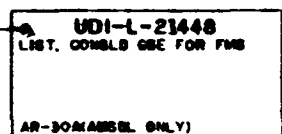
UDI-T-21060
UDI-S-21060
UDI-S-21060
UDI-S-21060



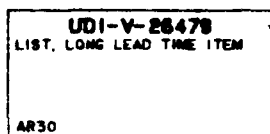
P DEL L



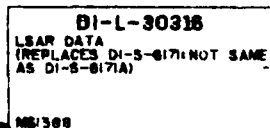
DEL LSA



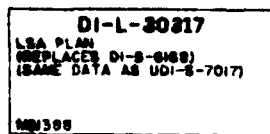
LOR P DEL



DEL



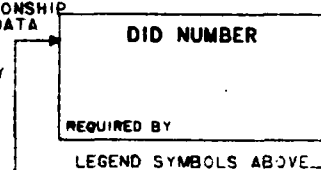
LSA DEL L ALL ILS



LSA P DEL DI-S-6168

- DRAWING
- OR NOT INCLUDED IN DID TEXT
- SUPPLIES INFORMATION REQUIRED BY ITEM TO LEFT
- CANCELLED
- CONNECTOR (CONNECTS SEVERAL DID INTER-RELATIONSHIP LINES)

INTERRELATIONSHIP TERMINUS. DATA FROM OTHER DID(S) REQUIRED BY THIS DID



DID NUMBER AND SYMBOL FROM WHICH INTERRELATIONSHIP ORIGINATES

LTD NOTES:

1. WHEN CITING UDI-R-21202 DO ONLY PARAGRAPH 10.4 AND 10.5 OF THIS DID.
2. ONLY WHEN PRE-OPERATIONAL (INTERIM) SUPPORT IS A REQUIREMENT OF THE END ITEM CONTRACT.
3. CAN BE USED FOR SPECIFIC SITE IN ADDITION TO SPECIFIC DID.
4. USED ONLY WHEN DESIGN/EQUIPMENT CHANGE/SUPPORT CONCEPT CHANGES.
5. NOT NAVY
6. INCLUDES NON-NAVAIR INPUTS.
7. ONLY IF REQUIRED AND FUNDED/OTHERWISE GOVERNMENT ONLY.
8. SUPERSEDED BY DI-L-7022
9. SUPERSEDED BY DI-S-7017

VOUGHT CORPORATION

PAPER OFFICE USE ONLY
 DALLAS, TEXAS 75260

MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY

Figure 3.2 DATA ITEM DESCRIPTION INTERRELATIONSHIP NETWORK

MAINTENABILITY ENGINEERING
APRIL 24, 1960

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permit fully legible reproduction

Each of the 105 DID's specified in the six source documents is shown in Figure 3.2. Within each block is the DID number, title, and source document which specifies its use. Additional information is provided, where appropriate, to indicate expiration dates, cancellation, limited application, and supersession. Further, those DID's which are shown to be cancelled or expired in the AMSDL are indicated by an "X" through the block.

Beneath each block is a series of symbols which provide additional information about the DID. There are thirty-six symbols, seventeen of which provide information on the subject or on the material which the DID describes. The remainder of the symbols describe the products or interim information the DID generates. These symbols are listed in the legend of Figure 3.2.

The interconnecting lines which are shown on Figure 3.2 show the interrelationships between the DID's. In most instances, the interrelationship lines emanate from the product symbols. This line proceeds from this symbol to the DID block which requires the information. The symbol and DID number shown interspersed on some of the lines is included to ease tracking a line from the originating DID block to the DID at which the line terminates with an arrowhead (→).

The symbols which have an "N1" or "NI" ("not included in DID text,") associated with them have the following meaning:

The information or product symbol shown is not indicated specifically in this DID, however, the DID at which the symbol interrelationship line terminates indicates that this information is required to meet its requirements.

The symbol "DEL" adjacent to a product symbol indicates that that product is a deliverable end item of the DID. The remainder of the symbols are self explanatory.

3.2.2 Analysis of the Data Item Description Interrelationships

Analysis of Figure 3.2 indicates several prevalent trends. One, a substantial number of DID's require data from other DID's without so stating. Stated in another way, there are a number of DID's which indicate that information generated by them is used by another DID but the second DID does not reference the first. This situation is pervasive and is indicated by the "NI" on the product symbols. Second, general DoD DID's (DI) have been rewritten by the Navy to make them unique (UDI), but in many instances this uniqueness is limited to a single word, sentence, or minor (simple) format change with the remainder of the DID being identical. This is indicated, in part, by the use of the equals sign (=). Third, in individual cases, but still frequent enough to be considered a trend, information generated by a DID is utilized by a second DID which has been cancelled or which has expired. The converse of this is also true.

The anomalies depicted in Figure 3.2 are further expounded in Table 3.2, DID's Having Substantially the Same Content, Table 3.3, Cancelled/Expired/Superceded Data Item Descriptions, Table 3.4, DID's with Incomplete References, and Table 3.5, other DID Anomalies. Each of these tables describes a different category of finding which the analysis of the DID Interrelationship Network depicts.

TABLE 3.2-1 DID's HAVING SUBSTANTIVELY THE SAME CONTENT

<u>SPECIFIED DID</u>	<u>SUBSTANTIVE DID</u>	<u>COMMENTS</u>
DI-V-2076A UDI-V-21029	DI-V-6190	Both state they are substantively the same. DI-V-6190 has been superceded by DI-V-7008. The specified DID's do not reflect the supercession.
UDI-V-21030 DI-V-2078A	DI-V-6189	Both state they are substantively the same. DI-V-6189 has been superceded by DI-V-7002. The specified DID's do not reflect the supercession.
DI-V-2079A UDI-V-21031	DI-V-6146	Both state they are substantively the same. DI-V-6146 has been superceded by DI-V-7005. The specified DID's do not reflect the supercession.
DI-V-2081A UDI-V-21028	DI-V-6178	Both state they are substantively the same. DI-V-6178 has been superceded by DI-V-7004. The specified DID's do not reflect this supercession. DID UDI-V-26479 is worded almost exactly as DI-V-2081A and UDI-V-21028 yet there is no reference between the DID's. Also DID UDI-V-26479 indicates it is substantively the same as DI-V-2081 but DID's DI-V-2081A and UDI-V-21028 do not show this relationship.
UDI-L-21002D UDI-L-21012	DI-V-6183A	DI-V-6183A is specified by MIL-STD-1388. Both specified DID's state they are substantively the same. DID's UDI-L-21002D and DI-V-6183A are identical in wording except one uses the words "support equipment" and the other the words "ground support equipment."
UDI-V-21042A	DI-V-6140	Substantively the same.
DI-H-2025 UDI-S-21202	DI-H-6130	Both state they are substantively the same. UDI-S-21202 also states it is substantively the same as DI-S-6171. However, DI-H-2025 does not state similarity to DI-S-6171.
DI-V-2077A UDI-V-21033A	DI-V-6193	Both state they are substantively the same. DI-V-6193 has been superceded by DI-V-7009. The specified DID's do not reflect the supercession. DI-V-2077A applies to all Navy where UDI-V-21033A applies to NAVAIR only.

TABLE 3.2-2 DID's HAVING SUBSTANTIVELY THE SAME CONTENT

<u>SPECIFIED DID</u>	<u>SUBSTANTIVE DID</u>	<u>COMMENTS</u>
DI-A-6102A	DI-L-6138	Substantively the same.
UDI-R-21017	DI-S-6168	DID states it is substantively the same. DID-S-6168 is a companion DID to DI-L-30317 and both should not be specified together. DI-S-6169 is also a companion DID to DI-S-6168. DID-S-7017 replaces DI-S-6168. DID UDI-L-30317 also states it replaces DI-S-6168.
UDI-V-21027	DI-V-6188	Substantively the same. DID DI-V-6188 has been cancelled.
UDI-A-21000B UDI-A-21190	DI-A-6102	Substantively the same. DID DI-A-6102 is specified by MIL-STD-1388 and expired on 31 December 1979. DID's DI-A-6102 and UDI-A-21000B are worded essentially the same except DI-A-6102 uses the words "support equipment" and UDI-A-21000B uses the words "ground support equipment."
UDI-E-21001E	DI-S-6196	Substantively the same. DID DI-S-6196 has been cancelled.
UDI-L-21003C	DI-V-6185	Substantively the same. DID DI-V-6185 is specified by MIL-STD-1388. The information called out in Block 10 of UDI-L-21003C is the same as that required by Block 10 of DI-V-6185 except that DI-V-6185 is much more inclusive.
UDI-L-21004	DI-E-6120	Substantively the same.
UDI-T-21005C	DI-S-6177A	Substantively the same. However, UDI-T-21005C indicates it has been superceded by DI-S-6177A.
UDI-P-21006D	DI-E-6121	Substantively the same. DI-E-6121 has been superceded by DI-E-7031. The specified DID does not reflect the supercession.
UDI-F-21007C	DI-F-6127	Substantively the same.

TABLE 3.2-3 DID's HAVING SUBSTANTIVELY THE SAME CONTENT

<u>SPECIFIED DID</u>	<u>SUBSTANTIVE DID</u>	<u>COMMENTS</u>
UDI-V-21008C	DI-P-6165	Substantively the same. UDI-L-21008C and DI-P-6165 are almost identical in wording except that DI-P-6165 utilizes the words "support equipment" and UDI-L-21008C uses the words "ground support equipment."
UDI-F-21009C	DI-V-6186	Substantively the same.
UDI-F-21010C	DI-V-6184	Substantively the same.
UDI-L-21013C	UDI-L-21395	DID UDI-L-21013C combines data generated by it and DID UDI-L-21395. Both DID's are specified by AR-30A and DID UDI-L-21013C also is specified by AR-21C.
UDI-L-21020	DI-M-6154	Substantively the same.
UDI-M-21021	UDI-M-21156	DID UDI-M-21021 is a companion DID to UDI-M-21156 and should not be cited together. UDI-M-21156 is not listed in the AMSDL.
UDI-V-21026	DI-V-6187	Substantively the same. DID UDI-V-21026 also states it is substantively the same as DID DI-V-6111. DID-V-6187 has been superceded by DI-V-7016B. The specified DID does not reflect the supercession.
UDI-V-21026	DI-V-6111	Substantively the same. DID UDI-V-21026 also states it is substantively the same as DID DI-V-6187. DID DI-V-6111 has been superceded by DI-E-7031. Specified DID does not reflect the supercession.
UDI-V-21032	DI-V-6191	Substantively the same. DI-V-6191 has been superceded by DI-V-7008. Specified DID does not reflect the supercession.
UDI-V-21034	DI-V-6194	Substantively the same. DID DI-V-6194 has been cancelled.
UDI-V-21035A	DI-P-6166	Substantively the same. DID DI-P-6166 has been cancelled.
UDI-V-21041	DI-L-6143	Substantively the same.

TABLE 3.2-4 DID's HAVING SUBSTANTIVELY THE SAME CONTENT

<u>SPECIFIED DID</u>	<u>SUBSTANTIVE DID</u>	<u>COMMENTS</u>
UDI-V-21043A	DI-L-6141	Substantively the same. DI-L-6141 has been superceded by DI-L-7021. The specified DID does not reflect the supercession.
UDI-V-21045A	DI-L-6142	Substantively the same. DI-L-6142 has been superceded by DI-L-7022. The specified DID does not reflect the supercession.
UDI-S-21049	DI-S-6170	Substantively the same.
UDI-H-21084	DI-H-6131	Substantively the same.
UDI-S-21202	DI-S-6171	Substantively the same. DI-S-6171 is specified by MIL-STD-1388.
UDI-V-26479	DI-V-2081	Substantively the same. DI-V-2081 is specified by AR-30A.

TABLE 3.3-1 CANCELLED/EXPIRED/SUPERCEDED DATA ITEM DESCRIPTIONS

<u>CANCELLED/EXPIRED DID</u>	<u>COMMENTS</u>
DI-A-6102A	DID's UDI-A-21000B and UDI-A-21190 are substantively the same as this DID.
DI-P-6165A	DID UDI-V-21008C is substantively the same as this DID and it also is cancelled/expired. DID DI-P-6165A indicates it is a companion/related DID to DI-V-6183A and DI-S-6176.
UDI-T-21005C	This DID has been superceded by DI-S-6177A according to the AMSDL although UDI-T-21005C indicates it is substantively the same as DI-S-6177A. UDI-T-21005C was a companion DID to UDI-V-21027 and UDI-E-21001E. Data Item UDI-E-21001E also indicated it required data from the superceded UDI-T-21005C to complete its requirements.
UDI-F-21007C	This DID indicates it requires data from DID's UDI-F-21009C and UDI-F-21010C both of which are indicated as cancelled by AMSDL. DID UDI-F-21007C is substantively the same as DI-F-6127.
UDI-V-21008C	This DID indicates it is a companion/related DID to UDI-E-21001E and UDI-L-21002D. It also is substantively the same as DI-P-6165A.
UDI-F-21009C	DID UDI-F-21007C which also is cancelled requires data from this DID. This DID is substantively the same as DI-V-6188.
UDI-F-21010C	DID UDI-P-21037 indicates it requires data from this cancelled DID. UDI-F-21010C is a companion DID to cancelled DID UDI-F-21009C. Cancelled DID UDI-F-21007C and DID UDI-P-21037 require data generated by this DID.
DI-AP-220B	This DID has been superceded by UDI-P-21354.
UDI-H-21019	This cancelled DID provided a plan which was used to put together the master ILS Plan generated by UDI-L-21012. It also is a companion DID to cancelled UDI-H-21084.
UDI-V-21030	This DID is a companion DID to UDI-V-21026A, UDI-V-21029, UDI-V-21031, and cancelled DID UDI-V-21032. It also requires the instructions from UDI-V-21027 and is a companion DID to that data item. DID UDI-V-21033A indicates that it requires data generated by this cancelled DID. DID UDI-V-21030 is substantively the same as DI-V-6189.

TABLE 3.3-2 CANCELLED/EXPIRED/SUPERCEDED DATA ITEM DESCRIPTIONS

<u>CANCELLED/EXPIRED DID</u>	<u>COMMENTS</u>
UDI-V-21032	This DID is a companion DID to UDI-V-21026, UDI-V-21027, and cancelled DID UDI-V-21030. It is substantively the same as DI-V-6191 and requires instructions contained in UDI-V-21027.
UDI-V-21034	This DID is a companion DID to UDI-V-21035A. It also is substantively the same as DI-V-6194.
UDI-L-21052	This DID is cancelled and has no interrelationships with any of the other specified DID's.
UDI-H-21084	DID UDI-H-21019 is a companion/related DID. Cancelled DID UDI-H-21019 indicates this DID is a companion to it. DID UDI-H-21084 is substantively the same as DI-H-6131.
UDI-L-21395	This DID has been superceded by UDI-L-21013C which is substantively the same.

TABLE 3.4-1 DID's WITH INCOMPLETE REFERENCES

<u>SPECIFIED DID</u>	<u>COMMENTS</u>
UDI-E-21001E	Data from this DID is required by UDI-L-21002D but UDI-E-21001E does not reference or indicate a relationship to UDI-L-21002D.
UDI-L-21004C	Data from this DID is required by UDI-E-21001E but UDI-L-21004C does not reference or indicate a relationship to UDI-E-21001E.
UDI-P-21006D	Data from this DID is required by UDI-E-21001E but UDI-P-21006D does not reference or indicate a relationship to UDI-E-21001E.
UDI-F-21009C	Data from this cancelled DID is required by cancelled DID UDI-F-21007C but UDI-F-21009C does not reference or indicate a relationship to UDI-F-21007C.
UDI-F-21010C	Data from this cancelled DID is required by UDI-P-21037 but UDI-F-21010C does not reference or indicate a relationship to UDI-F-21037C.
UDI-L-21011	Data from this DID is required by UDI-R-21015 but UDI-L-21011 does not reference or indicate a relationship to UDI-R-21015.
UDI-L-21012	Data from this DID is required by UDI-L-21328A but UDI-L-21012 does not reference or indicate a relationship to UDI-L-2328A.
UDI-R-21014	Data from this DID is required by UDI-L-21015 but UDI-L-21014 does not reference or indicate a relationship to UDI-L-21015.
UDI-V-21026A	Data from this DID is required by UDI-V-21033A, cancelled UDI-V-21032, UDI-V-21029, and UDI-E-21001E but UDI-V-21026A does not reference or indicate a relationship to any of these other DID's.
UDI-V-21030	Data from this cancelled DID is required by UDI-V-21033A but UDI-V-21030 does not reference or indicate a relationship to UDI-V-21033A.
UDI-P-21037	Data from this DID is required by UDI-P-21038 and UDI-P-21039 but UDI-V-21037 does not reference or indicate a relationship to UDI-P-21038 and UDI-P-21039.
UDI-P-21039	DID UDI-P-21040 indicates that UDI-P-21039 is a related DID and that it should supply data to it but UDI-P-21039 does not indicate any relationship to UDI-P-21040.
UDI-V-21048	This DID is a related/companion DID to UDI-S-21047 but there is no relationship indicated in UDI-V-21048.

TABLE 3.4-2 DID's WITH INCOMPLETE REFERENCES

<u>SPECIFIED DID</u>	<u>COMMENTS</u>
UDI-L-21054	Data from this DID is required by UDI-A-21190 but UDI-L-21054 does not indicate any relationship to UDI-A-21190.
UDI-S-21070	Data from this DID is required by UDI-P-21083 but UDI-S-21070 does not indicate any relationship to UDI-P-21083.
UDI-H-21084	This cancelled DID is a companion/related DID to cancelled DID UDI-H-21019 but UDI-H-21084 does not indicate any relationship with UDI-H-21019.
UDI-R-21131	Data from this DID is required by UDI-E-21001E but UDI-R-21131 does not indicate any relationship to UDI-E-21001E.
UDI-A-21190	Data from this DID is required by UDI-P-21083 but UDI-A-21190 does not indicate any relationship to UDI-P-21083.
DI-L-30316	This DID is a companion DID to DI-L-30317 but DI-L-30316 does not indicate any relationship to DI-L-30317.

TABLE 3.5-1 OTHER DID ANOMALIES

SPECIFIED DID

COMMENTS

DI-L-2082A
DI-L-2083A
DI-L-2084A
DI-L-2085A
DI-L-2155
DI-L-22332C

All of these DID's are related by subject matter, however only DI-L-2155 refers to any of the others by stating that DI-L-2082A/-2083A/-2084A/-2085A should not be specified if DI-L-2155 is required. No interrelationships are noted on the remaining five.

DI-L-30316
UDI-R-21014
DI-S-6171A

These DID's all deal with LSAR Data but none refer to one another.

DI-S-6171A
DI-S-7017
UDI-R-21014
UDI-R-21015
UDI-R-21017
UDI-H-21084
UDI-L-22332C
UDI-L-30316
UDI-L-30317
UDI-L-23857A

All these DID's deal in some aspect with LOR analysis/plans/reports. In general there are no interrelationships noted in the DID's except for the following: UDI-L-30316 indicates it is a companion/related DID to UDI-L-30317; UDI-L-30317 states it is a companion/related DID to UDI-R-21014; UDI-R-21014 indicates UDI-R-21015 provides input data to it; and UDI-L-30317 states it contains the same data as DI-S-7017.

UDI-P-21006D
UDI-V-21026

The specified DID's state they are substantively the same as two other data items each of which are superceded by the same DI-E-7031. Yet the specified DID's do not indicate a relationship. Further, UDI-V-21026 which is substantively the same as DI-V-6111 (which is superceded by DI-E-7031) states it also is substantively the same as DI-V-7016B which is not noted on any of the DID's.

DI-V-2076A
UDI-V-21029
UDI-V-21032

DID's DI-V-2076A and UDI-V-21029 are substantively the same as DI-V-6190, DID UDI-V-21032 is substantively the same as DI-V-6191. However, both DI-V-6190 and DI-V-6191 are superceded by DI-V-7008. The specified DID's do not indicate this and with both substantive DID's replaced by a single DID, a new relationship exists between the specified DID's which is not indicated on the DID's.

UDI-V-21033

This DID refers to UDI-V-21030 but does not refer to it by number.

UDI-H-21084

This DID refers to UDI-R-21014 and UDI-L-30316 but does not refer to them by number.

UDI-P-21083

This DID refers to UDI-S-21070 and UDI-A-21190 but does not refer to them by number.

TABLE 3.5-2 OTHER DID ANOMALIES

SPECIFIED DID

COMMENTS

DI-V-2081A
UDI-V-21028
UDI-V-26479

The wording on each of these DID's is almost identical.

DI-V-2075
DI-V-2076A
DI-V-2078A
DI-V-2079A
DI-V-2051A
DI-V-2077
UDI-V-26479

These DID's are almost word for word the same. They differ only in the subject matter of the DID. This subject difference is reflected in one of the three or four options called out in Block 10 of the DID's.

Data Item Descriptions UDI-AL-5023, UDI-V-21144A, and UDI-L-21448 were not available and UDI-L-21499 was available in draft form only. Therefore, they were not evaluated as part of this analysis.

3.3 Data Elements

After the relationships between DID's was established, the next step taken was to evaluate the contents of each DID. The DID's were reviewed, and a data element description generated for each detailed requirement. These data elements were then analyzed for duplicity and commonality to ascertain whether it would be appropriate to delete, combine, or change specific DID's to make them more effective for Navy use. The data element analysis was broken into two sections: basic data elements described in the DID's and those data elements which are solely deliverable products.

The DID's which are unique to a particular program, e.g., Harpoon, Foreign Military Sales, were not analyzed in detail and are not included in the data element analyses.

3.3.1 Basic Data Element Analysis

This study defined data elements to mean those pieces of required information necessary to fulfill the intent of the DID. For example, a data element may be each piece of information needed to fill a block of a form, a list or index of items, a general subject category of data, or the collective result of several data elements such as a report or plan.

Some of these basic data elements utilized in this study are several individual data elements consolidated into one, e.g., height, width, length, girth, etc. are consolidated and referred to as dimensions. Also data elements

which are identical in nature but stated differently in various DID's have been consolidated, i.e., sequencing of words or omission of words. Data elements dealing with various types of support equipment also were consolidated using the term support equipment in the description rather than retaining the words Aerospace Ground Equipment (AGE), Peculiar Ground Support Equipment (PGSE), or Ground Support Equipment (GSE).

The DID's analyzed in the study produced 454 basic data elements. Appendix C is a matrix of data elements versus DID. Figure 3.3 explains the columnar headings. Many of the data elements are used in just one DID and are not candidates for examining redundancy. Table 3.6 summarizes the data elements occurrences. A similar summary, Table 3.7, depicts the number of data elements appearing on the DID's.

The Cumulative Times Data Element (or DID) Is Used column on Tables 3.6 and 3.7 are interpreted as follows. The column with the down arrow sums the number of Data Elements (or DID's) accounted for up to and including that line. For example, the second line of Table 3.6 indicates that there were 81 Data Elements which were referred to two times. The used 81 elements combined with the 283 Data Elements referred to only once accounts for 364 of the 454 total Data Elements. The up arrow indicates how many Data Elements are still unaccounted for. In this case 171 of 454 Data Elements referenced two or more times. Table 3.7 is read in the same manner.

To gain a further insight as to the extent of duplicity by data elements, the applicable matrix was truncated to include only those data elements which are mentioned in six or more DID's. This information is presented as Table 3.8. Only twenty-four of the data elements met this criteria. Review of these 24 data elements indicates that they are predominantly identification

Fido

DATA ELEMENT TITLES	DATA ITEM DESCRIPTION VERSUS DATA ELEMENT REQUIREMENTS MATRIX	UD/01 DESCRIPTION NUMBER	COUNT
TRAINING OBJECTIVES			
TRAINING REQUIREMENTS			
TRANSPORTATION - HANDLING RIGHTS			
TRANSPORTATION COST			
TURN-AROUND TIME			
TYPE DESIGNATOR			
TYPE ITEM CODE			
TYPE OF STORAGE CODE			
TYPE, MODEL, SERIES DESIGNATOR			
UNIT PRICE			
USABLE ON CODE			

**Number of Times Data Element,
is Specified by Different
DIDs**

Figure 3.3 Explanation of Appendix C Data Item Description versus Data Element Requirements Matrix

TABLE 3.6 DATA ELEMENT BY DID SUMMARY

NUMBER OF TIMES DATA ELEMENT IS USED	NUMBER OF OCCURANCES	TOTAL TIMES DATA ELEMENT IS CALLED OUT	CUMULATIVE TIMES DATA ELEMENT IS USED	
			▲	▼
1	283	283	454	283
2	81	445	171	364
3	34	547	90	398
4	17	615	56	415
5	15	690	39	430
6	4	714	24	434
7	4	742	28	438
8	4	774	16	442
9	2	792	12	444
10	2	812	10	446
11	2	834	8	448
12	1	846	6	449
13	1	859	5	450
14	1	873	4	451
15	1	888	3	452
18	1	906	2	453
23	1	929	1	454

TABLE 3.7 NUMBER OF DATA ELEMENTS APPEARING ON EACH DID

NUMBER OF DATA ELEMENTS PER DID	NUMBER OF DID'S	CUMULATIVE TIMES DID IS USED	
		↙	↗
0	35	35	105
1	6	41	70
2	4	45	64
3	5	50	60
4	6	56	55
5	4	60	49
6	3	63	45
7	3	66	42
8	4	70	39
9	4	74	35
10	3	77	31
11	4	81	28
12	2	83	24
13	1	84	22
14	2	86	21
16	1	87	19
18	3	90	18
19	2	92	15
20	2	94	13
21	1	95	11
22	1	96	10
27	1	97	9
29	1	98	8
31	1	99	7
38	2	101	6
40	1	102	4
45	1	103	3
71	1	104	2
100	1	105	1

NOTE: THIS SUMMARY TABLE INCLUDES DID'S WHICH HAVE BEEN CANCELLED AND SUPERCEDED.

**TABLE 3.8 DATA ITEM DESCRIPTION VERSUS DATA ELEMENT REQUIREMENTS MATRIX, TRUNCATED
SIX ITEMS OR MORE**

[illegible]

I

data, and they are not readily conducive to combining or elimination. During the truncation process, it was found that the 454 data elements were called out by the DID's a total of 929 times. Further, 430 of the 454 data elements are required five or less times. This indicates that redundancy of the data elements is not a prevalent problem. However, the fact that most data elements are required infrequently points more toward a proliferation of DID's with few requirements. This, then, points out a need to consolidate DID's to reduce the number of single item DID's.

To verify this observation, Appendix C was truncated again to extract those DIDs with 10 or more data elements each. This resulted in 31 DID's being called out. Table 3.9 shows this data. As in the previous data element analysis, during the truncation, some interesting statistics were uncovered. Sixty DID's had five or less data elements. This included 35 which did not specify any data elements. Truncating the data elements in this manner confirmed the initial observation that data element redundancy was not as prevalent as DID proliferation.

3.3.2 Deliverable Data Element Analysis

In addition to looking at the basic data elements called out in the study DID's, the data items which describe deliverable products were separately identified. A deliverable data item was defined as the product of a DID, such as a report, plan, form, list, index, etc., which is delivered to the Government or to a contractor by the organization(s) required to perform the DID. These deliverable data items are listed in Table 3.10.

A total of 95 deliverable data items were found in the 105 DID's surveyed. Only one of these deliverable data items, LSAR Data, also can be found

TABLE 3.3-1 DATA ITEM DESCRIPTION VERSUS DATA ELEMENTS-TRUNCATED
(10 OR MORE DATA ELEMENTS PER DID)

DATA ITEM DESCRIPTION NUMBER

U
O D D D U
I
H L L L S V S A E L S L L R R R L V V V P V V V L A S L
2 2 2 2 6 6 7 2
U O U 1
2 8 8 0 5 6 8 1 0
5 4 5 0 5 9 3 7 0 0 0 0 1
A A A A 0 1 2 4 1 2 3 4 5 7 8 6 7 3 5 7 2 3 5 1 0 2 8 A

DATA ELEMENTS TITLES

ACCESS/REPARATION RIGHTS X X
AIRCRAFT STATUS X X
ALLOWANCE PARTS LIST X
ALLOWANCE QUANTITY X
ANALYSIS SCHEDULE X X
ANALYTICAL PROCEDURE X X
ANALYTICAL REPORTS X
APPROVAL BY AND DATE X
ARTICLE REQUIRING SUPPORT X
ATTACHMENTS, MEANS AND NUMBER OF X
BASIS OF ISSUE X
BCM, RATE X
CALIBRATION ITEM X
CALIBRATION REPORT X
CAPACITY/CAPABILITY X
CFE/GFE X
CHIT ID X
CLIMATIC CONDITIONS X
COMPLETION DATE, SCHEDULE X
CONCEPT FOR SYSTEM COVERAGE X
CONCURRENT SUPPORT POLICY X
CONNECTIONS, TYPE AND NUMBER OF X
CONSUMPTION RATE X
CONTRACT NUMBER X
CONTRACTOR NAME X X X X X X
CONTRACTOR RESPONSIBILITIES A GOVT, INTERREL X X X X X X
CONTRACTOR SUPPORT OF FLEET VERIFICATION PROGRAMS X X X X X X
CONTRACTOR'S ORGANIZATION X
CONVERSION FACTOR INTERVAL PER FLIGHT HOUR (INT/FH) X
CONVERSION FACTOR (DEGRADATION) X
CONVERSION PLAN, PRELIMINARY ID FORMAL X
COST OF ENTERING ITEM INTO SUPPLY SYSTEM X
COST TRADE-OFF MODEL X
COST/UNIT PRICE X
COST/HR RETAINING ITEM INTO SUPPLY SYSTEM X
COST, TOTAL X
CRITICAL ITEM LIASOM X
CRITICALITY ASPECTS X

TABLE 3.9-4 DATA ITEM DESCRIPTION VERSUS DATA ELEMENTS-TRUNCATED
(10 OR MORE DATA ELEMENTS PER DID)

DATA ITEM DESCRIPTION NUMBER																									
UU																									

TABLE 3.9-5 DATA ITEM DESCRIPTION VERSJS DATA ELEMENTS-TRUNCATED
(110 OR MORE DATA ELEMENTS PER DIO)

DATA ELEMENTS TITLES		DATA ITEM DESCRIPTION NUMBER																										
LSAN SUMMARY																												
MAINT MAN-HOURS FOR DISCARD																												
MAINT MAN-HOURS FOR REPAIR																												
MAINT. QUALITY/FACTOR RECOMMENDED																												
MAINT. REQMT CARD NUMBER																												
MAINTAINABILITY CONSIDERATIONS																												
MAINTAINABILITY RECOMMENDATION STATUS																												
MAINTAINABILITY RECOMMENDATIONS																												
MAINTENANCE ACTION CODE																												
MAINTENANCE ACTIONS PER FLIGHT HOUR (MA/FH)																												
MAINTENANCE ACTIONS PER INTERVAL (MA/INT)																												
MAINTENANCE CONCEPT																												
MAINTENANCE CONCEPT IMPACT																												
MAINTENANCE CONCEPT JUSTIFICATION																												
MAINTENANCE CYCLE (GSE)																												
MAINTENANCE LEVEL/CATEGORY CODE																												
MAINTENANCE LEVEL, APPLICABILITY OF DOCUMENT																												
MAINTENANCE MANAGEMENT DATA																												
MAINTENANCE PLAN IDENTIFICATION																												
MAINTENANCE REPLACEMENT FACTOR (MRF)																												
MAINTENANCE REQMT/TASK NUMBER																												
MAINTENANCE SIGNIFICANT ITEM LIST/OR MEAS																												
MAINTENANCE TASKS DESCRIPTION & ANALYSIS																												
MAINTENANCE TYPE CODE																												
MAINTENANCE, CORRECTIVE																												
MAN-HOURS (TASK/MINUTES)																												
MAN-HOURS ALLOCATED																												
MAN-HOURS MEASURED																												
MAN-HOURS PER FLIGHT HOUR/PER YEAR																												
MAN-HOURS PREDICTED																												
MANUFACTURERS PART NUMBER																												
MATCH INDICATOR CODE																												
MATERIAL COST FACTOR																												
MATERIAL MGT CODE																												
MATERIAL REQMT																												
MEA DATA																												
MEAN TIME BETWEEN CORRECTIVE ACTIONS (MTBCA)																												

DATA ITEM DESCRIPTION NUMBER

[illegible]

DATA ITEM DESCRIPTION NUMBER

DATA ELEMENTS TITLES		-----																									
PROCUREMENT DATE		X X																									
PRODUCTION METHOD CODE		X																									
PRODUCTION LEAD TIME		X																									
PROGRAM DESCRIPTION		X																									
PROJECT PLUS CODE		X																									
PROOFING SCHEDULE		X																									
PROVISIONING DOCUMENTATION DEVELOP. DELIVERY PLAN		X																									
PROVISIONING PROCESS		X																									
PUBLICATION CODE		X																									
QTY ORDERED		X																									
QTY. CHAM. SQUADRONS		X																									
QTY. MRS. WORKED PER DAY		X																									
QTY. WORK DAYS PER YR		X																									
QUALITATIVE MAINTAINABILITY REQUIREMENTS		X																									
QUALITY ASSURANCE PROVISIONS		X																									
QUANTITY IN REMORK/UPDATE		X																									
QUANTITY NOT CAPABLE OF REMORK/UPDATE		X																									
QUANTITY OF FAILURES		X																									
QUANTITY OF SQUADRONS		X																									
QUANTITY ON HAND, REPAIRABLE		X																									
QUANTITY ON HAND, SERVICEABLE		X																									
QUANTITY PER ASSEMBLY		X																									
QUANTITY PER END ITEM		X																									
QUANTITY PER LEVEL OF MAINTENANCE		X																									
QUANTITY PER SET/II		X																									
QUANTITY REPAIR FOR ISSUE CONDITION		X																									
QUANTITY RECOMMENDED TOTAL		X																									
QUANTITY REJECTED		X																									
QUANTITY REPAIRED		X																									
RATIO EXPECTED NIBAR TO DESIGN MTJF		X																									
RECOMMENDED SOLUTION		X																									
REFERENCE DATA AND LITERATURE		X																									
REFERENCE DESIGNATION		X																									
REFERENCE DESIGNATION CODE		X																									
RELIABILITY CONSIDERATIONS		X																									
REMOVAL RATE		X																									
REMOVAL RATE, FALSE		X																									
REPAIR CYCLE TIME/DAYS		X																									
REPAIR PARTS LIST		X																									

TABLE 3.9-9 DATA ITEM DESCRIPTION VERSUS DATA ELEMENTS-TRUNCATED
(10 OR MORE DATA ELEMENTS PER DID)

DATA ITEM DESCRIPTION NUMBER		DATA ITEM DESCRIPTION NUMBER	
DATA ELEMENTS TITLES		DATA ELEMENTS TITLES	
SHELF LIFE CODE		U U U U U U U U U U U U U U U U U U	U U U
SHELF LIFE CODE/MONTHS		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SHIPPING CONTAINER DATA		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
SHIPPING LIST		H L L L S V S A E L S L L L Q P R L V V V V V V L A S L	
SKILL ANALYSIS REPORT		2 2 2 2 2 6 6 7 2	2 2
SKILL LEVEL CODE		0 0 0 1	0 0 0 1
SKILL SPECIALTY CODE		2 0 8 0 5 5 8 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 2 3	2 0 8 0 5 5 8 1 0 1 2 3
SKILL SPECIALTY EVALUATION		5 4 5 0 5 9 3 7 0 0 0 0 1 1 1 1 1 1 1 1 2 2 2 3 3 3 4 4 4 5 9 0 2	5 4 5 0 5 9 3 7 0 0 0 0 1 1 1 1 1 1 1 1 2 2 2 3 3 3 4 4 4 5 9 0 2
SOFTWARE COST		A A A 0 1 2 4 1 2 3 4 5 7 0 6 7 3 5 7 2 3 5 1 0 2 0	A A A 0 1 2 4 1 2 3 4 5 7 0 6 7 3 5 7 2 3 5 1 0 2 0
SOURCE MAINTENANCE RECOVERY CODE			
SPACE REQUIRED FOR S. E.			
SPACE FACTOR			
SPARE ALLOCATION			
SPECIAL HANDLING REQMTS			
SPECIAL MATERIAL CONTENT CODE			
SPECIFICATION TOLERANCE(S) OF REQMT(S)			
STATUS CODE			
STATUS REPORT ANNUAL			
STATUS REPORT MONTHLY			
STORAGE SPACE REQUIRED/EACH ITEM			
SUPERCEDED ITEM			
SUPPLEMENTAL PACKAGING DATA			
SUPPORT AND TEST EQUIPMENT REQUIREMENTS CODE			
SUPPORT EQUIPMENT COST			
SUPPORT EQUIPMENT FLOOR SPACE REQMT			
SUPPORT EQUIPMENT SETS (LIST)			
SUPPORT EQUIPMENT UTILIZATION HOJRS			
SUPPORT EQUIPMENT/SITE QTY			
SUPPORT IMPACT (QUAL MAINT REQMT)			
SYSTEM CONSTRAINTS			
SYSTEM DESCRIPTION			
SYSTEM/EQUIPMENT JSE			
SYSTEM/EQUIPMENT DESCRIPTION			
SYSTEM/EQUIPMENT MISSION			
SYSTEMS ENGRG/EFFECTIVENESS ANALYSIS			
TASK ANALYSIS REPORT			
TASK FREQUENCY			
TASK IDENTIFICATION/DESCRIPTION			
TASK INTERVAL CODE			

**TABLE 3.9-10 DATA AT 40 DESCRIPTION VERSUS DATA ELEMENTS-TRUNCATED
(10 OR MORE DATA ELEMENTS PER DIO)**

TABLE 3.10-1 DELIVERABLE DATA ITEMS

DID NUMBER	DATA ELEMENT TITLES	PREPARED BY	REQUIRED BY
DI-M-2025	REPORT, ANALYSIS, TASK AND SKILL	C	G
DI-M-2052	REPORT, TECHNICAL MANUAL STATUS	C	G
DI-V-2075	CERTIFICATE OF PRIOR SUBMISSION	C	G
DI-V-2076A	COMMON AND BULK ITEMS LIST	C	G
DI-V-2077A	DESIGN CHANGE NOTICE (DCN)	C	G
DI-V-2078A	PROVISIONING PARTS LIST	C	G
DI-V-2079A	REPAIRABLE ITEMS LIST	C	G
DI-V-2081A	LONG LEAD TIME ITEMS LIST	C	G
DI-L-2082A	REPORT, LOR (LEVEL OF REPAIR) SUMMARY	C	G
DI-L-2084A	PLAN, LOR (LEVEL OF REPAIR) PROGRAM	C	G
DI-L-2085A	REPORT, LOR (LEVEL OF REPAIR) ANALYSIS	C	G
DI-L-2100	LIST, ENGINEERING DOCUMENT REQUIREMENTS (EDRL)	C	G
DI-L-2155	REPORT, LOR (LEVEL OF REPAIR) INPUT DATA	C	G
DI-S-5376	SUPPORT ANALYSIS REPORT	C	G
DI-S-6169	OPTIMUM REPAIR LEVEL ANALYSIS (ORLA) REPORT	C	G
DI-S-6171A	LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA	C	G
	LSAR SUMMARY	C	G
	LSAR DATA	C	G
	DATA FILE	C	G
	COMPUTER PROGRAMMER'S GUIDE	C	G
DI-V-6183A	LIST, CONSOLIDATED SUPPORT EQUIPMENT (CSEL)	C	G
DI-V-6185A	STANDARD/MODIFIED HAND TOOLS LIST	C	G
DI-S-7017	LOGISTIC SUPPORT ANALYSIS (LSA) PLAN	C	G
UDI-A-21000B	PLAN, GROUND SUPPORT EQUIPMENT (GSEP)	C	G
UDI-E-21001E	DATA RECOMMENDATION, GROUND SUPPORT EQUIPMENT (GSEID)	J	G
UDI-L-21002D	LIST, CONSOLIDATED GROUND SUPPORT EQUIPMENT (CGSEL)	J	G
UDI-L-21003C	LIST, STANDARD/MODIFIED HAND TOOLS (LSMHT)	C	G
UDI-S-21004C	ILLUSTRATIONS, GROUND SUPPORT EQUIPMENT (GSEI)	J	J
UDI-P-21006D	DATA, INSTALLATION, GROUND SUPPORT EQUIPMENT (GSEID)	C	J
UDI-L-21011	PROPOSAL, INTEGRATED LOGISTIC SUPPORT SECTION	E	G
UDI-L-21012	INTEGRATED LOGISTIC SUPPORT PLAN (ILSP)	J	J
UDI-L-21013C	PLANS, MAINTENANCE	J	J
UDI-R-21014	RECORD, LOGISTIC SUPPORT ANALYSIS	C	G

LEGEND
C= CONTRACTOR E=EITHER
G= GOVERNMENT J=JOINT

TABLE 3.10-2 DELIVERABLE DATA ITEMS

DID NUMBER	DATA ELEMENT TITLES	PREPARED BY	REQUIRED BY
UDI-R-21015	REPORT, LOGISTIC ENGINEERING PROGRESS	C	G
UDI-V-21016	ITEMS, LIST OF THRU-AWAY	C	G
UDI-H-21018	PLAN, CETS (CONTRACTOR ENGRG & TECH SERVICES) REQTS	C	G
UDI-N-21021	LIST, TECHNICAL MANUAL DATA (TMDL)	C	G
UDI-V-21026A	DATA, PROVISIONING SCREENING	C	G
UDI-V-21028	LIST, LONG LEAD TIME	C	G
UDI-V-21029	LIST, BULK ITEMS/EARLY OVERHAUL AND CRASH DAMAGE MATERIALS	J	J
UDI-V-21031	LIST, VENDOR REPAIRABLE ITEMS	C	G
UDI-V-21033A	DESIGN CHANGE NOTICE (DCN)	J	J
UDI-V-21035A	SCHEDULE, DELIVERY	C	G
UDI-L-21036	SPECIFICATION, ILS DETAIL	F	I
UDI-P-21037	DOCT, FACIL REQMTS FOR TYPL SHOREBASED SITES	J	J
UDI-P-21038	REPORT, SITE EVALUATION	C	G
UDI-P-21039	PLAN, SUPPORT SITE ACTIVATION	J	I
UDI-V-21042A	LIST, SUPPORT MATERIAL (SML), PREOPERATIONAL (INTERIM)	J	J
UDI-V-21043A	REPORT, CONSUMPTION/USAGE	C	G
UDI-V-21044	REPORT, TRANSITION STATUS	J	G
UDI-V-21045A	REPORT, RESIDUAL ASSET, PREOPERATIONAL (INTERIM)	C	G
UDI-S-21047	DATA, REQUIREMENTS, ILS EVALUATION, PHASE II & III	C	G
UDI-S-21048	PLAN, DETAILED, ILS EVALUATION, PHASE I&II	C	G
UDI-L-21050	LIST, ITEMS REOG SPEC HDLG BET/WITHIN MAINT & SUPPLY DEPTS	C	G
BI-L-21051A	LIST, GENERAL PACKAGING, HDLG, STORAGE, & TRANSP DATA	C	G
UDI-E-21055	ANALYSIS, SITE LOADING IMPACT	C	G
UDI-E-21057	WORKLOAD, RETROFIT INCORPORATION	C	G
UDI-S-21060	TEST, EVAL/DR DEMO TEST ARTICLE CONFIG	C	G
UDI-L-21069	CANDIDATE LIST, ANALYTICAL REWORK PROGRAM (ARP)	C	G
UDI-R-21131	REPORT, RELIABILITY AND MAINTAINABILITY PROGRAM	C	G
UDI-S-21202	ANALYSIS DATA, MAINTENANCE ENGINEERING	J	J
UDI-L-21328A	PLAN, OPERATIONAL LOGISTICS SUPPORT (OLSP)	C	G
UDI-L-22332C	PLAN, PROGRAM, LEVEL OF REPAIR (GOVERNMENT ANALYSIS)	C	G
UDI-L-23404	COUNT-MEA SYS EMPTY CABLE REELS REQ, DISP INSTR FOR SHIP MINE	C	G
UDI-L-23416	LIST, SHIP INITIAL ON-BOARD OPERG SPACE ITEM INVENTORY	J	G
UDI-L-23857A	DOCUMENTATION, LOGISTIC SUPPORT ANALYSIS (LSA)	C	J

LEGEND

C= CONTRACTOR E=EITHER
G= GOVERNMENT J=JOINT

TABLE 3.10-3 DELIVERABLE DATA ITEMS

DID NUMBER	DATA ELEMENT TITLES	PREPARED BY	REQUIRED BY
UDI-V-26479	LONG LEAD TIME ITEMS LIST	C	G
DI-L-30316	LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA	C	G
	OPERATIONS AND MAINTENANCE REQUIREMENTS	C	G
	ITEM R & M CHARACTERISTICS	C	G
	TASK ANALYSIS SUMMARY	C	G
	MAINTENANCE AND OPERATOR TASK ANALYSIS	C	G
	SUPPORT TASK EQUIPMENT OR TRAINING MATERIAL DESCRIPTION AND JUS	C	G
	FACILITY DESCRIPTION AND JUSTIFICATION	C	G
	SKILL EVALUATION AND JUSTIFICATION	C	G
	SUPPLY SUPPORT REQUIREMENTS	C	G
	DIRECT ANNUAL MAINTENANCE AND OPERATOR CODE AND LEVEL OF MAINTEN	C	G
	PERSONNEL AND SKILL SUMMARY	C	G
	NARRATIVE TASK DESCRIPTIONS	C	G
	RELIABILITY AND MAINTAINABILITY SUMMARY	C	G
	FAILURE AND EFFECTS SUMMARY	C	G
	MAINTENANCE ALLOCATION SUMMARY	C	G
	SUPPORT AND TEST EQUIPMENT REQUIREMENTS SUMMARY	C	G
	SUPPORT AND TEST EQUIPMENT UTILIZATION SUMMARY	C	G
	SPECIAL AND COMMON TOOL REQUIREMENTS SUMMARY	C	G
	FACILITY REQUIREMENTS SUMMARY	C	G
	TECHNICAL MANUAL INFORMATION REQUIREMENTS SUMMARY	C	G
	PROVISIONING REQUIREMENTS SUMMARY	C	G
	REPAIR PARTS SUMMARY	C	G
	REPAIR PARTS ALLOWANCE LIST BY MAINTENANCE SUMMARY LEVEL	C	G
	SUPPLY SUPPORT SUMMARY	C	G
	CALIBRATION/MEASUREMENT SUMMARY	C	G
	SYSTEM TEN HIGH REPORT BY WBS/WDC	C	G
	LSAR DATA FILE	C	G
DI-L-30317	LOGISTIC SUPPORT ANALYSIS (LSA) PLAN	C	J

LEGEND
C= CONTRACTOR E=EITHER
G= GOVERNMENT J=JOINT

in the basic data element listing. (LSAR data is required by DI-S-7017 and UDI-L-21020). Four of the deliverable data items are required by UDI-S-6171A. Twenty-six of the 95 deliverable data items are deliverable documents of DI-L-30316. Therefore, out of the 105 DID's surveyed only 65 produced deliverable documents. The remainder of the DID's either provide information to other DID's or require that information generated by them not be disseminated.

In addition to determining the deliverable data items, the organization responsible for delivering the data item also was tabulated. Four categories were derived for those entities requiring the delivery of data: either contractor or Government (E), contractor (C), or Government (G), or jointly derived and delivered (J). Fourteen of the deliverable data items are jointly derived and delivered. Two can be delivered by either a contractor or the Government. Seventy-nine are developed or delivered by the contractor. Table 3.10 delineates the organization responsible for delivery.

Further, the study analyzed the deliverable data items to determine need by organization. Fourteen are required by both the Government and the contractor; eighty-one are needed by the Government. Table 3.10 also indicates who requires the data.

4.0 CONTRACT DATA REQUIREMENTS LIST

4.1 Contract Data Requirements List Requirements

Once the Navy has decided that a particular piece of information is required for a given program, the acquisition of that data becomes the next step. To accomplish this, the DID is incorporated in the Contract Data Requirements List (CDRL), DD Form 1423, issued to the contractor. The CDRL lists all of the data requirements required by the procuring activity. Maintenance engineering contract requirements constitute a small portion of the overall CDRL.

To determine whether the DID's evaluated in this study were properly called out, CDRL's from several major aircraft programs were reviewed. The results of this review are discussed in this section.

4.2 CDRL Review

The Data Item Descriptions addressed in Section 3.0 were analyzed by reviewing the most current and available A-7E, AV-8B, F-14A, F-18A, and TA-7C CDRL's. CDRL's for all Navy aircraft and CDRL's for each contract year were not available. This hampered the evaluation of which DID's were specified in a given development or procurement program. The lack of a CDRL "audit trail" also hampered evaluation of DID time phasing and cost analysis. These latter two subjects are addressed in Sections 5.0.

Table 4.1 is a summarization of the number of DID's presented in the CDRL's which were obtained for review.

TABLE 4.1 CONTRACT DATA REQUIREMENTS LIST
REVIEW SUMMARY

Aircraft	Number of DID's Listed in CDRL	Number of DID's Common to CDRL and MECR Study
A-7E	0	0
AV-8B	86	29
F-14A	21	0
F-18A	198	40
TA-7C	24	6

The general trend of the DID's common to both this study and the five CDRL's evaluated shows that few of the 105 DID's reviewed were required in those five aircraft programs.

Although most of the data requested in the CDRL's was similar to that listed in the study DID's, varied references were provided for the same data when called for by different categories or offices of primary responsibility.

A review of the A-7E CDRL showed that a majority of the data required could readily be addressed to a current DID, but the authority or contract reference reflected a variety of non-standard references.

Further analysis indicated that the information in the CDRL's was insufficient, in most cases, to determine specific deliverable requirements without the need for additional documents, such as Armed Services Procurement Regulations (ASPR), Military Standards, Integrated Logistics Support (ILS) management data, Engineering Change Proposals (ECP), Master Plans, manuals, NAVAIRINSTR's, specifications, government or contractor letters, etc. Most of this information was not available and therefore was not included in the scope of the study.

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In addition, the reviewed CDRL's showed redundancy in the data the Government was procuring. Examples of duplicity of a requirement in the F-18 and TA-7C CDRL's are shown in Figures 4.1 through 4.5.

The duplicity found in the individual CDRL's poses numerous questions.

- o Do the four separate F-18A Design Change Notice CDRL line items based on two different DID's generate individual reports?
- o Is the data prepared in accordance with AR-32, MIL-STD-1561, or AR-30A(1)?
- o Who is the prime Office of Primary Responsibility, AIR-4132, 417, or 412?
- o When are the reports due?
- o Is the customer obligated to pay four times for the same information?

These were the types of questions asked when the F-18A CDRL was reviewed.

In general, the CDRL review pointed to an apparent lack of coordination among the Offices of Primary Responsibility. This leads to the potential expense of procuring the same information several times. Also, because of the CDRL line item duplicity, the possibility exists that different divisions within the contractor's organization would each perform the DID requirement. This may generate further wasted effort and expense, and create the possibility of conflicting reports.

CONTRACT DATA REQUIREMENTS LIST										SYSTEM ITEM	CONTRACTOR	
CATEGORY												
1. SEQUENCE NUMBER	2. TITLE OR DESCRIPTION OF DATA	3. SUBTITLE	4. CONTRACT REFERENCE	5. AUTHORITY (Date from Number)	6. TECHNICAL OFFICE	7. DOWNS CODE (a) (b) (c)	8. AS OF DATE	9. FREQUENCY	10. DATE OF 1ST SUBMISSION	11. DATE OF SUBSEQUENT SUBM EVENT NO	12. DISTRIBUTION AND ADDRESSEES (Amplitude, Frequency, Range, etc.)	
CAA7	Design Change Notice (DCN)				AIR-4132	LT		X Time	See 16	See 16	TOTAL	
<p>REMARKS</p> <p>Schedule, Data Element Requirements and distribution in accordance with Provisioning Requirements Statement in AR-32.</p>												
CM07	Design Change Notices (DCN)				AIR-417	LT		X Time	See 16	See 16	TOTAL	
<p>REMARKS</p> <p>Schedule, Data Element Requirements and distribution in accordance with Provisioning Technical Documentation Data Selection Sheet (PTDSS) DD Form 1949-1, Provisioning Requirements Statement DD Form 1949-2 and Provisioning Performance Schedule, Fig. 2 MIL-STD-1561.</p>												
CM07	Design Change Notices (DCN)				AIR-412	LT		X Time	See 16	See 16	TOTAL	
<p>REMARKS</p> <p>Schedule, Data Element Requirements and distribution in accordance with Provisioning Technical Documentation Data Selection Sheet (PTDSS) DD Form 1949-1, Provisioning Requirements Statement DD Form 1949-2 and Provisioning Performance Schedule, Fig. 2 MIL-STD-1561.</p>												
	NOTICE, DESIGN CHANGE (DCN)				AIR-412	LT		ONE/R	SEE BLK 16	REVISIONS AS CHANGES OCCUR.	TOTAL	
<p>REMARKS</p> <p>BLOCK 12: REQUIRED COMMENCING 60 DAYS AFTER COMPLETION OF THE PROVISIONING CONFERENCE AND IN ACCORDANCE WITH THE PROVISIONING REQUIREMENTS TO BE PRICED WHEN SPECIFIC REQUIREMENTS ARE KNOWN (SEE SCHEDULE)</p>												
<p>PREPARED BY</p>										<p>DATE</p>		<p>APPROVED BY</p>

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Figure 4.1 F-18A Contract Data Requirements List
Design Change Notice Duplication

CONTRACT DATA REQUIREMENTS LIST										SYSTEM ITEM		
TO EXHIBIT										CONTRACTOR		
TO CONTRACT PR										CATEGORY		
1. SEQUENCE NUMBER	2. TITLE OR DESCRIPTION OF DATA	3. SUBTITLE	4. AUTHORITY (Show Form Number)	5. CONTRACT REFERENCE	6. TECHNICAL OFFICE	7. APP INPUT DOWS CODE TO IAC REQ (A)	8. INPUT CODE TO IAC REQ (A)	9. AS OF DATE	10. FREQUENCY	11. DATE OF 1ST SUBMISSION	12. DATE OF SUBSEQUENT SUBM EVENT MO	13. DISTRIBUTION AND ADDRESSES (Distribution - Military Logistics System Support)
1.	PLANS, MAINTENANCE											
2.	G008											
3.	PARA 3.3.3 OF CHAPTER 3,											
4.	ILS-DS-10A-7											
5.	REMARKS											
<p>MAINTENANCE PLANS INCLUDING THE AIRCRAFT LEVEL MAINTENANCE PLAN, ARE TO BE SUBMITTED COMMENCING 180 DAYS AFTER CONTRACT AWARD AND INCREMENTALLY IN ACCORDANCE WITH THE LSA COMPLETION SCHEDULE OF THE LSA CANDIDATE LIST. SUBMIT 2 PRELIMINARY PAPER COPIES TO AIR-411 AND AFTER NAVAIR APPROVAL SUBMIT ONE COPY ON MICROFILM (TYPE OF MICROGRAPHICS TBD).</p> <p>MAINTENANCE PLANS SHALL BE IN THE FORMAT OF AS-4110. ALL CHANGES TO MAINTENANCE PLANS AS A RESULT OF APPROVED ECP'S WILL BE SUBMITTED IN ACCORDANCE WITH THE SCHEDULE PROVIDED IN THE ECP MASTER PLAN.</p>												
6.	CE04	Plans, Maintenance			AIR-411				ONE/R	See Blk 16	See Blk 16	See Blk 16
7.	UDI-L-21013C											
8.	<p>REMARKS</p> <p>Maintenance Plans, including the Aircraft Level Maintenance Plans, are to be updates of plans submitted during FSD. The plans are to be submitted incrementally, commencing 180 days after contract award in accordance with the completion schedule as reflected on the contractor prepared LSA Schedule. Prepare Maintenance Plans as follows, with two copies each to distribution (submittal to AIR-411 will be via RIUSD): preliminary maintenance plans (Part I of UDI-L-21013C); system level maintenance plans, (Part I and Part III); and functional systems maintenance plans (Parts I, II and III of UDI-L-21013C). Submittal of functional systems maintenance plans will include submission of worksheets 1, 2, 3, 4, 5, 6, 7, 8 and 9. Maintenance plans and associated data will be in accordance with the approved LSA Procedures and the MOU, of 16 December 1977. Changes to maintenance plans resulting from approved ECPs, will be submitted in accordance with the ECP Master Plan schedule.</p>											
9.	<p>Revisions as changes occur.</p>											
10.	TOTAL											

Figure 4.3-1 F-18A Contract Data Requirements List
Maintenance Plans Duplicity

CONTRACT DATA REQUIREMENTS LIST																																																																							
ATTN NO. TO EXHIBIT		SYSTEM ITEM		CATEGORY		CONTRACTOR		DISTRIBUTION AND ADDRESSES (Audience - Regular Copies Mailed Express)																																																															
1. SEQUENCE NUMBER	2. TITLE OR DESCRIPTION OF DATA	3. SUBTITLE	4. AUTHORITY (Base Item Number)	5. CONTRACT REFERENCE	6. TECHNICAL OFFICE	7. APP. CODE TO IAC REQ (AI)	8. INPUT (AI)	9. AS OF DATE	10. DATE OF SUBSEQUENT SUBM EVENT NO																																																														
CT06	Maintenance Plan			One/R	ATR-4172				See 16																																																														
UDI-L-21013C					LT	A			Revisions as changes occur.																																																														
<p>Block 12: Preliminary submittal for review in accordance with approved schedule on Worksheet 1 of GSE LSA Worksheets submittal. After review, submit within 60 days to ATR-41721 only for approval.</p> <p>Block 4: Implementations of UDI-L-21013C will be as described in LSA Procedures PS-884 Vol. II, "Vellum" with final only.* Final delivered 30 days after approval.</p> <p>**Preliminary only.</p>																																																																							
<table border="1"> <tr> <td>ATR-41721</td> <td>2/0</td> </tr> <tr> <td>NALC(322E, #30)</td> <td>2/0</td> </tr> <tr> <td>NAEC(92A23)Fn only</td> <td>1/0</td> </tr> <tr> <td>NARP NORTS(373)</td> <td>1/0</td> </tr> <tr> <td>NAEC(92A12)Fn only</td> <td>1/1*</td> </tr> <tr> <td>ASO(SCM4)(NL-A)</td> <td></td> </tr> <tr> <td>TEO41</td> <td>2/0</td> </tr> <tr> <td>NARF JAX Fn only</td> <td>1/0</td> </tr> <tr> <td>CNATRA(52)Fn only</td> <td>1/0</td> </tr> <tr> <td>NATSF(21-2)Fn only</td> <td>1/0</td> </tr> <tr> <td>RILSD</td> <td>2/0</td> </tr> <tr> <td>ATR-41713 Fn only</td> <td>1/0</td> </tr> <tr> <td>ATR-4132 Fn only</td> <td>1/0</td> </tr> <tr> <td>ATR-5521 Fn only</td> <td>1/0</td> </tr> <tr> <td>NAEC(92A43)</td> <td>1/0</td> </tr> <tr> <td>FMTANT(AWSS)</td> <td>1/0</td> </tr> <tr> <td>CWAP(7531)</td> <td>2/0</td> </tr> <tr> <td>CNAL(532D8)</td> <td>2/0</td> </tr> <tr> <td>**CWAP(74M)</td> <td>1/0</td> </tr> <tr> <td>**CG 3RD MAM(AM/</td> <td></td> </tr> <tr> <td>AMO)</td> <td>1/0</td> </tr> <tr> <td>**COMLATWINGAC(71)</td> <td>1/0</td> </tr> <tr> <td>FMFAC(AWSG-4)</td> <td>1/0</td> </tr> <tr> <td>NATSF(922, 331)</td> <td></td> </tr> <tr> <td>Fn only</td> <td>2/0</td> </tr> <tr> <td>CMC ASL Fn only</td> <td>1/0</td> </tr> <tr> <td>CG 2nd MAM(SC11)</td> <td>1/0</td> </tr> <tr> <td>F/A-18 FIT</td> <td>1/0</td> </tr> <tr> <td colspan="2"></td> </tr> <tr> <td colspan="2">TOTAL</td> </tr> <tr> <td colspan="2">32/1</td> </tr> </table>										ATR-41721	2/0	NALC(322E, #30)	2/0	NAEC(92A23)Fn only	1/0	NARP NORTS(373)	1/0	NAEC(92A12)Fn only	1/1*	ASO(SCM4)(NL-A)		TEO41	2/0	NARF JAX Fn only	1/0	CNATRA(52)Fn only	1/0	NATSF(21-2)Fn only	1/0	RILSD	2/0	ATR-41713 Fn only	1/0	ATR-4132 Fn only	1/0	ATR-5521 Fn only	1/0	NAEC(92A43)	1/0	FMTANT(AWSS)	1/0	CWAP(7531)	2/0	CNAL(532D8)	2/0	**CWAP(74M)	1/0	**CG 3RD MAM(AM/		AMO)	1/0	**COMLATWINGAC(71)	1/0	FMFAC(AWSG-4)	1/0	NATSF(922, 331)		Fn only	2/0	CMC ASL Fn only	1/0	CG 2nd MAM(SC11)	1/0	F/A-18 FIT	1/0			TOTAL		32/1	
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Figure 4.3-2 F-18A Contract Data Requirements List
Maintenance Plans Duplicity

There also appears to be selective use of the requirements stipulated in the six source documents reviewed in this study. Although the policy of selectively applying certain sections of a set of specifications considered is a sound policy, the non-uniform approach toward specifying DID's, evident in the reviewed CDRL's, leads to a non-standard result and makes comparisons of progress and the advancement of maintenance engineering programs and concepts between major procurement programs a nearly impossible task.

5.0 CONTRACT TIME PHASING, COSTING, AND RANKING AND RATING

5.1 General Comments

The next steps under taken during the study were to evaluate the contract time phasing of each of the DID's, the cost of performing the DID's, and to develop a rating system to rank each DID's value to a given program. Although numerous attempts were made to accomplish each of these steps, none of them could be accomplished with the degree of confidence the authors and sponsor deemed necessary. In the case of time phasing, the information provided in the DID's and CDRL's was incomplete or ambiguous in nature. The pricing or cost information was not available to the study investigators. Finally, to accomplish an accurate rating and ranking system for a DID's program value requires not only the interrelationships discussed in Section 3.0, it also requires the information on timing and cost. Since the latter two could not be empirically established, the rating and ranking portion of the study was not attempted.

The following paragraphs deal with the attempts the study undertook to provide timing and costing information for each DID.

5.2 Time Phasing

The determination of when a DID should be accomplished and when it should cease to be required was based upon an analysis of the CDRL's discussed in Section 4.0, upon the general approach used in most procurement programs, and upon the experience of the study authors and sponsor. An attempt to develop time phasing of DID requirements indicated inconsistencies in the CDRL's time references. These inconsistencies involved many different timing periods such as: days after contract, days after receipt of order, days after contract

funding, in accordance with a given schedule, in accordance with the Integrated Logistics Support control manual, days after an event, days prior to an event, etc. Further, there were instances of varied time requirements for deliverable data items within a given DID. However, the DID's, in most instances, did not denote the program phase or timing requirements.

Several attempts were made to provide a chart which would show when a DID should be accomplished. An approach chosen was one which would be compatible with MIL-STD-470A, PROPOSED, Maintainability Program for Systems and Equipment Development and Production (currently available in a draft state). MIL-STD-470A describes four acquisition phases during which a maintainability program would be required. The four acquisition phases are:

- (1) Conceptual (CONCEPT) Phase: The identification and exploration of alternative solution concepts to satisfy a validated need.
- (2) Demonstration and Validation (VALID) Phase: The period when selected candidate solutions are refined through extensive study and analyses; hardware development, if appropriate; test; and evaluations.
- (3) Full-Scale Engineering Development (FSED) Phase: The period when the system and the principal items necessary for its support are designed, fabricated, tested and evaluated.
- (4) Production (PROD) Phase: The period from production approval until the last system is delivered and accepted.

A similar approach was taken for DID time phasing. Table 5.1 indicates if a DID is generally applicable (G) in that acquisition phase, selectively

TABLE 5.1-1 DID TIME PHASING EXAMPLE

<u>DID NUMBER</u>	<u>TITLE</u>	<u>CONCEPT</u>	<u>VALID</u>	<u>FSED</u>	<u>PROD</u>
DI-H-2025	Report, Analysis, Task and Skill	NA	NA	G	G
DI-M-2052	Report, Technical Manual Status	NA	NA	S	S
DI-V-2075	Certificate of Prior Submission	NA	NA	G	NA
DI-V-2076A	Common and Bulk Items List	NA	NA	G	NA
DI-V-2077A	Design Change Notice (DCN)	NA	NA	C	C
DI-V-2078A	Provisioning Parts List	NA	NA	G	G
DI-V-2079A	Repairable Items List	NA	NA	G	G
DI-V-2081A	Long Lead Time Items List	NA	G	G	G
DI-L-2082A	Report, LOR (Level of Repair) Summary	NA	NA	G	S
DI-L-2083A	Reports, LOR (Level of Repair) Status	NA	NA	G	S
DI-L-2084A	Plan, LOR (Level of Repair) Program	NA	NA	G	S
DI-L-2085A	Report, LOR (Level of Repair) Analysis	S	S	G	S
DI-L-2100	List, Engineering Document Rqmts (EDRL)	NA	NA	G	S
DI-L-2155	Report, LOR (Level of Repair) Input Data	S	S	G	S
DI-S-5376	Support Analysis Report	NA	S	G	NA
DI-S-6169	Optimum Repair Level Analysis (ORLA) Report	NA	G	G	NA
DI-S-6171A	Log Sprt Analysis Record (LSAR) Data	S	S	G	S
DI-V-6183A	List, Consolidated Support Equip (CSEL)	NA	G	NA	NA
DI-V-6185A	Standard/Modified Hand Tools List	NA	NA	G	G
DI-S-7017	Logistic Support Analysis (LSA) Plan	NA	NA	G	S
UDI-A-21000B	Plan, Ground Support Equipment (GSEP)	NA	NA	G	S
UDI-E-21001E	Data Recommendation, Ground Support Equipment	NA	S	G	S
UDI-L-21002D	List, Consolidated Ground Support Equipment	NA	S	G	S

TABLE 5.1-2 DID TIME PHASING EXAMPLE

<u>DID NUMBER</u>	<u>TITLE</u>	<u>CONCEPT</u>	<u>VALID</u>	<u>FSED</u>	<u>PROD</u>
UDI-L-21003C	List, Standard/Modified Hand Tools	NA	NA	G	S
UDI-S-21004C	Illustrations, Ground Support Equip	NA	NA	G	S
UDI-P-21006D	Data, Installation, Ground Support Equipment	NA	NA	G	S
UDI-L-21011	Proposal, Inter Log Sprt Section	G	NA	NA	NA
UDI-L-21012	Integrated Logistic Support Plan (ILSP)	G	NA	G	S
UDI-L-21013C	Plans, Maintenance	G	G	G	S
UDI-R-21014	Record, Logistic Support Analysis	NA	S	G	S
UDI-R-21015	Report, Logistic Engineering Progress	NA	NA	G	G
UDI-V-21016	Items, List of Throw-Away	NA	NA	G	G
UDI-R-21017	Plan, Int Log Sprt (ILSP) Analysis Section	NA	NA	G	S
UDI-H-21018	Plan, CETS (Cont Engrg & Tech Services)	NA	NA	NA	G
UDI-L-21020	Plan, Int Log Sprt (ILSP) Tech Manual Section	NA	NA	G	S
UDI-M-21021	List, Technical Manual Data (TMDL)	NA	NA	S	G
UDI-V-21025	Plan, ILSP Spares & Repair Parts Sect	NA	NA	G	S
UDI-V-21026A	Data, Provisioning Screening	NA	NA	G	S
UDI-V-21027	Instructions, Prov List Format (Nondeliverable)	NA	NA	G	G
UDI-V-21028	List, Long Lead Time	NA	NA	G	G
UDI-V-21029	List, Blk Items/Early Overhaul & Crash Dmg Mtrls	NA	NA	G	G
UDI-V-21031	List, Vendor Repairable Items	NA	NA	G	G
UDI-V-21033A	Design Change Notice (DCN)	NA	NA	S	G
UDI-V-21035A	Schedule, Delivery	NA	NA	S	G
UDI-L-21036	Specification, ILS Detail	G	NA	NA	NA

TABLE 5.1-3 DID TIME PHASING EXAMPLE

<u>DID NUMBER</u>	<u>TITLE</u>	<u>CONCEPT</u>	<u>VALID</u>	<u>FSED</u>	<u>PROD</u>
UDI-P-21037	DOC, Facil Rqmts for Typ1 SB Sites	NA	S	G	S
UDI-P-21038	Report, Site Evaluation	NA	S	G	S
UDI-P-21039	Plan, Support Site Activation	NA	G	G	G
UDI-P-21040	Data Package, Support Site Activation	NA	G	G	G
UDI-V-21041	Plan, ILSP Preoper (Interim) Sprt Sect	G	NA	G	S
UDI-V-21042A	List Sprt Mtrl (SML) Preopnl (Int)	NA	NA	G	G
UDI-V-21043A	Report, Consumption/Usage	NA	NA	G	G
UDI-V-21044	Report, Transition Status	NA	NA	S	G
UDI-V-21045A	Report, Residual Asset, Preopnl (Int)	NA	NA	G	G
UDI-S-21047	Data, Rqmts, ILS Eval, Phase II & III	NA	S	G	S
UDI-S-21048	Plan, Detailed, ILS Eval, Phase I & II	NA	S	G	NA
UDI-S-21049	Plan, Int Log Sprt (ILSP) Eval Sect	G	NA	G	S
UDI-L-21050	List, Items Reqq Spec Hdlg	NA	NA	G	G
UDI-L-21051A	Lst, Genl Pkg, Hdlg, Stor & Transp Data	NA	NA	NA	G
UDI-L-21054	Plan, ILSP Pkg, Hdlg, Stor & Transp Section	NA	G	G	S
UDI-E-21055	Analysis, Site Loading Impact	NA	S	G	S
UDI-E-21057	Workload, Retrofit Incorporation	NA	NA	S	G
UDI-S-21060	Test, Eval/or Demo Test Article Config	NA	NA	G	S
UDI-E-21064	Plan, ILSP Engrg Change Sprt Sect	G	NA	G	S
UDI-E-21065	Plan, ILSP Depot & Inter Rework Sprt Sect	G	NA	G	S
UDI-L-21069	Candidate List, Analytical Rework Program	NA	NA	G	G
UDI-S-21070	Plan, ILSP Site/Unit Activation Sect	G	NA	G	S
UDI-S-21078	Diagrams, Engrg and Production Event/ Flow	NA	NA	G	S

TABLE 5.1-4 DID TIME PHASING EXAMPLE

<u>DID NUMBER</u>	<u>TITLE</u>	<u>CONCEPT</u>	<u>VALID</u>	<u>ESSED</u>	<u>PROD</u>
UDI-S-21079	Manual, CDC Code	NA	NA	G	S
UDI-S-21080	Documentation, CDC Program	NA	NA	G	S
UDI-S-21081	Tape File, Special	NA	NA	G	S
UDI-S-21082	Plan, ILSP Contractor Data Collection Sect	G	NA	G	S
UDI-P-21083	Plan, ILSP Facilities Section	G	NA	G	S
UDI-R-21131	Report, R&M Program	NA	NA	G	G
UDI-A-21190	Plan, ILSP Ground Sprt Equipt Sect	G	NA	G	S
UDI-S-21202	Analysis Data, Maintenance Engineering	NA	NA	G	S
UDI-L-21328A	Plan, Operational Log Support (OLSP)	NA	NA	G	S
UDI-L-22332C	Plan, Program, LOR (Govt Analysis)	NA	S	G	NA
UDI-L-22338A	Report, Parts and Material Issue	NA	NA	G	G
UDI-L-22341A	Report, Logistics Design Appraisal (LDS)	NA	S	G	NA
UDI-L-23404	Count-Mea Sys Empty Cable Reels Rqmts	NA	NA	NA	G
UDI-L-23416	List, Ship Ini O-B Operg Space Item Inventory	NA	NA	NA	G
UDI-L-23857A	Documentation, Log Sprt Analysis (LSA)	NA	NA	G	S
UDI-V-26479	Long Lead Time Items List	NA	NA	G	S
DI-L-30316	Log Support Analysis Record (LSAR) Data	NA	NA	G	S
DI-L-30317	Logistic Support Analysis (LSA) Plan	G	NA	G	S

I

applicable (S), generally applicable to design changes only (C), or not applicable (NA). The majority of the DID's are not applicable to conceptual or validation phases of a procurement program.

Table 5.1 was created on a best judgment basis. As such, the authors consider it to be an example of the machinations which were conducted in attempting to determine DID time phasing, while emphasizing that time phasing could not be definitively established. As such, Table 5.1 is to be used as a guide and should not be used as a definitive contractual instrument as every procurement varies in its needs, speed of development, cost, and detail.

A second attempt to arrive at a time phasing method was made using a different approach than the MIL-STD-470A method. In this second approach, the DID's evaluated by this study that were mentioned in the CDRL's were tabulated along with any mentioned time phasing. A matrix was established, Tables 5.2 through 5.4, to determine if any common ground existed or if a pattern for DID timing could be established. This approach also proved to be unfruitful.

5.3 Costing

Accumulation of pricing information proved to be even more ambiguous than determining when a DID should be performed. Although the contents of a particular DID may be consistent from contractor to contractor, the procedure for accomplishing the DID by each contractor varies substantially. The amount of data automation, the management techniques utilized, the labor rates, material costs, and overhead rates vary dramatically. Although the overall corporate dollar rate bid on contracts may be similar because of competition, the manner

TABLE 5.2-1 TA-7C DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
UDI-E-21001E	Data Recommendation, Ground Support Equip- ment (GSERD)	NLT 30 days after funding authorization - for only TA-7C peculiar GSE.	As changes occur
UDI-L-21002D	List, Consolidated Ground Support Equip- ment (CGSEL)	NLT 30 days after receipt of marked-up GSERD(S). Separate TA-7C CGSEL not required.	Every 30 days; reissues every 180 days
UDI-L-21013C	Plans, Maintenance	NLT 30 days after receipt of Government approved GSERD	As required by changes
UDI-R-21014	Record, Logistic Support Analysis	NLT 15 days after comple- tion of analysis	---
UDI-R-21015	Report, Logistic Engineering Progress	NLT 10th of month after month of receipt of Government approved GSERD	NLT 10 of each month
UDI-R-21131	Report, Reliability and Maintainability Program	30 DAC	Every 90 days for changes only

TABLE 5.3-1 AV-8B DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
DI-H-2025	Report, Analysis, Task and Skill	13 MAC	As changes occur
DI-V-2075	Certificate of Prior Submission	IAW schedule in Provisioning Requirements Statement and Provisioning Performance schedule.	None - one time Report
DI-L-2082A	Report, LOR (Level of Repair) Summary	30 days after approval of all LOR analysis reports; 30 days after approval of GSE analysis Reports.	None - one time report
DI-L-2084A	Plan, LOR (Level of Repair) Program	Preliminary 30 DAC Final 60 DAC	As changes occur
DI-L-2085A	Report, LOR (Level of Repair) Analysis	IAW approval LOR Program Plan	As changes occur
UDI-E-21001E	Data Recommendation, Ground Support Equipment (GSERD)	NLT 30 days after contract funding auth.	As changes occur - normally at 30 day intervals
UDI-L-21002D	List, Consolidated Ground Support Equipment (CGSEL)	NLT 90 days after receipt of marked-up GSERD	Quarterly, end of reporting period plus 20 days
UDI-S-21004C	Illustrations, Ground Support Equipment (GSEI)	Submitted only for items specified in marked-up GSERD	
UDI-P-21006D	Data, Installation, Ground Support Equipment (GSEID)	NLT 30 days after release of each GSE item to fabrication	As changes occur
UDI-L-21012	Integrated Logistic Support Plan (ILSP)	15 days prior to 1st ILSMT 30 days after approval of preliminary	As changes occur; at least 30 days after each ILSMT.
UDI-L-21013C	Plans, Maintenance	For review - IAW schedule W/S1 of LSA Post review - NLT 60 days for approval Final - 30 days after approval	As changes occur
UDI-V-21016	Items, List of Throw-away	Submitted and revised as data is identified in LSA process.	As changes occur

TABLE 5.3-2 AV-8B DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
UDI-V-21029	List, Bulk Items/ Early Overhaul and Crash Damage Materials	As specified in ACO	As changes occur
UDI-P-21037	Doct, Facil Reqmts for Typl Shorebased Sites	Preliminary chapter 1, 2 and 3 within 180 DAC	Chapter 1-6 updates scheduled to coincide with signi- ficant milestones in ILS Program during FSD.
UDI-P-21039	Plan, Support Site Activation	IAW schedule contained in ILS Control Manual	IAW schedule con- tained in ILS Con- trol Manual
UDI-P-21040	Data Package, Support Site Activation	IAW schedule contained in ILS control manual	IAW schedule con- tained in ILS con- trol manual
UDI-V-21041	Plan, Int Log Sprt (ILSP) Preoper (Interim) Sprt Section	Preliminary 60 DAC Final 30 days after approval of preliminary	As changes occur
UDI-V-21042A	List, Support Mate- rial (SML), Preopera- tional (Interim)	90 DAC	As changes occur plus 10 days
UDI-V-21043A	Report, Consumption/ Usage	30 days after beginning of preop support	Quarterly - end of quarter
UDI-V-21044	Report, Transition Status	60 days after completion of preop support period	None - one time report
UDI-V-21045A	Report, Residual Asset, Preopera- tional (Interim)	30 days after completion of preop support period	None - one time
UDI-S-21048	Plan, Detailed, ILS Evaluation, Phase I & II	Phase I ILS eval - 60 days after receipt of prelimi- nary ILSP approval Maintenance Engineering inspection plan - 120 days prior to start of inspec- tion	As changes occur None - one time

TABLE 5.3-3 AV-8B DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
UDI-L-21050	List, Items Reqq Spec Hdlg Bet/Within Maint & Supply Depts	As specified in ACO order	As specified in ACO order
DI-L-21051A	List, General Pack- aging, Hdlg, Storage, & Transp Data	As specified in ACO order	As specified in ACO order
UDI-L-21069	Candidate List, Ana- lytical Rework Pro- gram (ARP)	120 days prior to start of MEI	As changes occur
UDI-R-21131	Report, Reliability and Maintainability Program	60 DARO	Every 90 days
UDI-S-21202	Analysis Data, Main- tenance Engineering	IAW approval LSA proce- dures.	As changes occur
UDI-L-21328A	Plan, Operational Logistics Support (OLSP)	Preliminary - 60 Days after receipt of order Final - 30 days after approval of preliminary.	As changes occur
UDI-L-21499	Data, Maintenance Plan Analyses	Initial submitted 30 DAC FSD under phase I	As changes occur

TABLE 5.4-1 F-18A DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
DI-V-2075	Certificate of Prior Submission	IAW Mil Std 1561, Provisioning Procedures	None - one time report
DI-L-2082A	Report, LOR (Level of Repair) Summary	End of LOR for Lot I.	None - one time report
DI-L-2084A	Plan, LOR (Level of Repair) Program	Preliminary - 30 DAC 2nd: NLT 90 after authorization to proceed Final - 60 days after receipt of Navy comments.	As changes occur
DI-L-2085A	Report, LOR (Level of Repair) Analysis	Incrementally as completed (with each Maintenance Plan for LSA-1 items)	Incrementally as completed (with each Maintenance Plan for LSA-1 items)
UDI-E-21001E	Data Recommendation, Ground Support Equipment (GSERD)	NLT 30 days after funding authorization	As changes occur
UDI-L-21002D	List, Consolidated Ground Support Equipment (CGSEL)	60 days after receipt of ACO order. NLT 30 days after receipt of marked-up GSERDs	Quarterly - 10 days after end of each calendar quarter Every 30 days, reissue every 180 days
UDI-T-21005C	Summary, Calibration/Measurements (CMRS)	Preliminary NLT 1 year to activation of first operational unit--Final - 90 days after preliminary approved	None - one time report
UDI-P-21006D	Data, Installation, Ground Support Equipment (GSEID)	NLT 30 days after release of each GSE item to fabrication	As required
UDI-L-21012	Integrated Logistic Support Plan (ILSP)	Preliminary - during first ILSMT Final - 30 days after receipt and approval of preliminary.	As changes occur, at least following each ILSMT.
UDI-L-21013C	Plans, Maintenance	Incrementally starting 180 DAC IAW LSA completion schedule	As changes occur, IAW ECP Master Plan schedule
UDI-R-21015	Report, Logistic Engineering Progress	30 days after submittal of ILS evaluation plan	Quarterly - EOQ Monthly - EOM + 10

TABLE 5.4-2 F-18A DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
UDI-V-21016	Items, List of Throw-away	180 DAC	As changes occur
UDI-V-21026A	Data, Provisioning Screening	NLT 60 prior to submission of LLTIL	As changes occur
UDI-V-21027	Instructions, Provisioning List Forman (Nondeliverable)	IAW Provisioning Requirement Statement in MD-1 Manual	
UDI-V-21028	List, Long Lead Time	36 months prior to first production A/C delivery	As changes occur
UDI-V-21029	List, Bulk Items/ Early Overhaul and Crash Damage Materials	IAW Provisioning Requirements Statement	None - one time report
UDI-V-21031	List, Vendor Repairable Items	180 days prior to provisioning	As changes occur
UDI-V-21032	List, Consumable Maintenance and Overhaul Material	IAW Provisioning Requirements Statement	As changes occur
UDI-V-21033A	Design Change Notice (DCN)	60 days after provisioning conference and IAW Provisioning Requirements	As changes occur
UDI-V-21034	Report, Delivery/ Delinquency	Contractor receipt of first order	Monthly--EOM - 5 days
UDI-V-21035A	Schedule, Delivery	45 days after each spares order	As changes occur
UDI-P-21037	Doct, Facil Reqmts for Typ1 Shorebased Sites	IAW approved site/unit activation schedules. 4 months after FSD contract award	As changes occur
UDI-P-21039	Plan, Support Site Activation	Preliminary and Final IAW Support Site Activation schedule in ILS Control Manual 24 months prior to site activation	Quarterly as changes occur

TABLE 5.4-3 F-18A DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
UDI-P-21040	Data Package, Support Site Activation	Preliminary and Final IAW Support Site Activation schedule in ILS Control Manual 24 months prior to site activation	Quarterly as changes occur
UDI-V-21041	Plan, Int Log Sprt (ILSP) Preoper (Interim) Sprt Section	IAW schedule in Navy approved MDC Report A3941, ILS Control Manual	As changes occur
UDI-V-21042A	List, Support Mate- rial (SML), Preopera- tional (Interim)	90 days after receipt of order	Quarterly - EOQ + 10
UDI-V-21043A	Report, Consumption/ Usage	Within 90 days of first deliveries of SE end items augmented support material	Quarterly - EOQ + 10
UDI-V-21044	Report, Transition Status	90 days after first tran- sition conference	Quarterly - EOQ + 10 days
UDI-V-21045A	Report, Residual Asset, Preopera- tional (Interim)	90 days after first tran- sition conference	Quarterly - EOQ + 10 days
UDI-S-21047	Data, Requirements, ILS Evaluation, Phase II & III	IAW ILS-DS-30A-7, Chapter 10	IAW ILS-DS-30A-7, Chapter 10
UDI-S-21048	Plan, Detailed, ILS Evaluation, Phase I & II	60 days after receipt of preliminary ILSP approval	As changes occur
UDI-L-21050	List, Items Reqq Spec Hdlg Bet/Within Maint & Supply Depts	NLT 90 days prior to pro- visioning	As changes occur
UDI-L-21051A	List, General Pack- aging, Hdlg, Storage, & Transp Data	NLT 180 days prior to pro- visioning	As changes occur
UDI-L-21052	Flow Diagram,, Logistic	NLT 180 days prior to pro- visioning	As changes occur

TABLE 5.4-4 F-18A DID TIME PHASING

<u>DID NUMBER</u>	<u>TITLE</u>	<u>INITIAL REPORT</u>	<u>SUBSEQUENT REPORTS</u>
UDI-E-21065	Plan, Int Log Sprt Depot & Inter Rework Sprt Sect	Preliminary - NLT 30 days after receipt of approved GSERD Final - NLT 30 days after preliminary approved	As changes occur
UDI-R-21131	Report, Reliability and Maintainability Program	30 DAC	As changes occur
UDI-S-21202	Analysis Data, Main- tenance Engineering	180 DAC	As changes occur Maintained as on call data
UDI-L-21328A	Plan, Operational Logistics Support (OLSP)	Preliminary NLT 180 days prior to fleet de- livery Final - NLT 30 days after preliminary approved Preliminary NLT - 90 DARO Final - NLT 30 days appro- val preliminary	As changes occur
UDI-L-21395A	Plans, Maintenance, for GSE	90 days after funding au- thorization of an approved GSERD.	As changes occur

by which an individual task is performed is divergent. To cause further ambiguity, most DID's are listed in a contract as "Not Separately Priced (NSP)" making cost determination and comparison virtually impossible.

To have pursued this subject further would have required substantial research, which was beyond the scope of this study, and the establishment of a cost data base where individual DID expense could be tabulated from each contractor.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 General Discussion

When reviewing the results of this study, the section on development of the data item interrelationship and dependency network stands out as the study's primary accomplishment. Secondary achievements included analysis of the DID interrelationship network and the investigation of CDRL requirements for the investigated DID's. When the proposal for this study was begun, aspirations were set to be able to accomplish a complete maintenance engineering contract requirements analysis on a broad spectrum of maintenance and logistics documents along with all of their attendant DID's. But, at the beginning of the study, the magnitude of the job readily became apparent and because of the extremely large quantity of documents and DID's applicable to maintenance engineering the scope had to be limited. As work progressed, it became evident that other portions of the study's expectations were unattainable because of the lack of data or because they would have required a substantial expansion of the study scope. The inability to establish definitive time phasing, to perform a cost analysis, and to develop a ranking system to determine a data element's value to a program were a disappointment to the study's authors and sponsor.

6.2 Conclusions

One of the premises established at the beginning of this study was that there was an excessive amount of duplication of data among the documents dealing with maintenance. In the documents reviewed, this premise was found not to be true. Instead, what was found was a proliferation in the quantity of DID's with just a few uniquely specified requirements in each. Even with the DoD

effort to keep DID proliferation down by establishing a centralized clearing and approving organization, the number of DID's applicable to a major program is astounding.

The study also found a significant number of DID's with strong inter-dependancy to one another. This interdependancy ranged from individual DID's which generate sections of a plan required by another DID, to companionship, exclusivity, relationships by implication, subject, or one-way ties, cancellation, or equality. The specification of the DID's through the CDRL process also was found to be less than adequate. Several instances were found where the same requirement, and in many cases the same DID, was required in different parts of the CDRL by different offices of primary responsibility (OPR). It appeared that some DID's were generated without first researching to find and utilize a similar existing DID by modifying it in the CDRL or contracting document. There was also a tendency to take a general DID and make it unique by changing the format of a report or form or by making the DID wording correspond more closely to an OPR's own particular terminology.

By the nature of the military specification system, one of the problems which perpetuates many of the conclusions of this study is the infrequency that source documents and DID's are revised. As new DID's are issued or as they are revised, the specifications to which they are related remain static. This causes confusion and misdirection. It also makes completion of a specific DID sometimes difficult as other documents that are required by that DID are either not specified, required, or funded.

6.3 Recommendations

The recommendations of this study fall into two categories: those which require Navy policy and procedural changes and those which need further study. In the first category the following recommendations are made:

1. Consolidate requirements covered by a given DID, regardless of category, under one technical office to improve standardization and control.
2. Consolidate requirements for a given type of information into one specific DID and make frequent changes to that one DID. This would further increase standardization and enhance the ability to create time phasing information for a contract or program. Examples of DID's which could be conducive to consolidation are indicated in Table 6.1.
3. Conduct a review of DID's with minimal data elements to consider where consolidation may be appropriate. Many of the DID's contain information which is management orientated or referral in nature, and that information could be included in one or two DID's or placed in a regulation or instruction.
4. Utilize the information presented in Figure 3.2 and in Tables 3.2 through 3.5 to correct or eliminate existing, known duplicity, ambiguity, lack of reference, etc., in the DID's analyzed as part of this study.

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VOUGHT CORP DALLAS TX MAINTAINABILITY ENGINEERING GROUP

F/G 15/5

MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY.(U)

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TABLE 6.1 EXAMPLES OF DID'S WHICH CAN BE CONSOLIDATED

DID NUMBER	DID TITLE
DI-V-2077A	DESIGN CHANGE NOTICE
UDI-V-21033A	DESIGN CHANGE NOTICE
DI-V-6183A	LIST, CONSOLIDATED SUPPORT EQUIPMENT
UDI-L-21002D	LIST, CONSOLIDATED GROUND SUPPORT EQUIPMENT
UDI-L-21448	LIST, CONSOLIDATED GROUND SUPPORT EQUIPMENT FOR FOREIGN MILITARY SALES
DI-V-2081A	LONG LEAD TIME ITEM LIST
UDI-V-21028	LONG LEAD TIME LIST
UDI-V-26479	LONG LEAD TIME ITEMS LIST
DI-L-30317	LOGISTICS SUPPORT ANALYSIS PLAN
DI-S-7017	LOGISTICS SUPPORT ANALYSIS PLAN
UDI-P-21039	PLAN, SUPPORT SITE ACTIVATION
UDI-S-21070	PLAN, ILS SITE/UNIT ACTIVATION SECTION
UDI-P-21039	PLAN, SUPPORT SITE ACTIVATION LSAR DATA
DI-6171A	LOGISTICS SUPPORT ANALYSIS RECORD DATA
UDI-R-21014	LOGISTICS SUPPORT ANALYSIS RECORD LSA DATA REQUIREMENTS LSAR DATA FILE LSAR REQUIREMENTS
DI-L-30316	LOGISTICS SUPPORT ANALYSIS RECORD DATA

5. Specify on the CDRL the time phasing of the DID requirement. If this necessitates using an ambiguous date such as days after receipt of order, then the first page of the CDRL should specify these dates as either actual or projected so that all the time phasing is consolidated for ready reference.

Recommendations requiring further study, the second category, are:

1. Develop a computer program which would indicate all the interrelationships existing between the DID's. The program would then provide information on an as needed basis, as to which OPR's the DID requirement should be coordinated with and what additional DID's or source documents should be specified because of reference, familiarity, similarity, exclusivity, etc.
2. Expand the DID review to include all areas covered by a large contract (such as the F-18), researching all regulations and standards, and consolidating requirements where needed. This effort would be the preliminary step toward developing a standard CDRL.

ABBREVIATIONS AND ACRONYMS

AGE	Aerospace Ground Equipment
AMSDL	Acquisition Management Systems and Data Requirements Control List
APPL	Applicable
ARP	Analytical Rework Program
ASPR	Armed Service Procurement Regulation
BET	Between
BLK	Bulk
C	Generally applicable to design changes only
CAL	Calibration
CANX	Cancelled
CDC	Contractor Data Collection
CDRL	Contract Data Requirements List
CGSEL	Consolidated Ground Support Equipment List
CMRS	Calibration/Measurement Requirements Summary
CNTR-MEAS	Counter-Measures
CONCEPT	Conceptual phase of acquisition process
CONT	Contractor
CSEL	Consolidated Support Equipment List
DCN	Design Change Notice
DEL	Deliverable
DI	Data Item
DID	Data Item Description
DISP	Disposition
DMG	Damage
DOC	Document

ABBREVIATIONS AND ACRONYMS (Continued)

DOC DATE	Document Date
DOD	Department of Defense
ECP	Engineering Change Proposal
EDRL	Engineering Document Requirements List .
ENGRG	Engineering
ERLY	Early
EQUIP	Equipment
EVAL	Evaluation
EXP DATE	Expiration Date
FACIL	Facility
FIX	Spares/repairable items list
FSED	Full-Scale Engineering Development phase of acquisition process
G	Generally applicable
GAPL	Group Assembly Provisioning List
GENL	General
GOVT	Government
GP	Group
GSE	Ground Support Equipment
GSEI	Ground Support Equipment Illustration
GSEID	Ground Support Equipment Installation Data
GSEP	Ground Support Equipment Plan
GSERD	Ground Support Equipment Recommendation Data
HDLG	Handling
ILS	Integrated Logistics Support
ILSP	Integrated Logistics Support Plan

ABBREVIATIONS AND ACRONYMS (Continued)

INSTR	Instruction
INT	Interim
INTER	Integrated
INVENT	Inventory
L	Logistics
LDA	Logistics Design Appraisal
LOG	Logistic
LOR	Level of Repair
LSAR	Logistics Support Analysis
LSA	Logistic Support Analysis
LST	List
LTD	Limited Use
LVL	Level
MAINT	Maintenance
MEARS	Maintenance Engineering Analysis Records
MECR	Maintenance Engineering Contract Requirements
MOD	Modified
MTRL	Material
NA	Not Applicable
NAVAIR	Naval Air Systems Command
NAVAIRINSTR	NAVAIR Instruction
NI	Not Included
NONDEL	Nondeliverable
NSP	Not Separately Priced
O-B	On-board
OH	Overhaul

ABBREVIATIONS AND ACRONYMS (Continued)

OLSP	Operational Logistics Support Plan
OPERG	Operating
OPNL	Operational
OPR	Office of Primary Responsibility
OPT	Optimum
ORLA	Optimum Repair Level Analysis
P	Plan
PGSE	Peculiar Ground Support Equipment
PKG	Package
PREOPNL	Preoperational
PROD	Production phase of acquisition process
PROV	Provisioning
REQG	Requiring
REQMTS	Requirements
REV	Revision
R&M	Reliability and Maintainability
RPR	Repair
RPT	Report
RQMTS	Requirements
S	Selectively applicable
SB	Shorebased
SE	Support Equipment
SECT	Section
SML	Support Material List
SMRY	Summary
SPEC	Special

ABBREVIATIONS AND ACRONYMS (Continued)

SPRT	Support
STD	Standard
STOR	Storage
SVCS	Services
SYS	System
TNG	Training
TRANSP	Transportation
UDI	Unique Data Item
VALID	Demonstration and Validation phase of acquisition process

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APPENDIX A

**Maintenance Engineering Contract Requirements Study
Specifications and Data Item Description (DID) Review**

- Office of Primary Responsibility Sequence -

Appendix A

Appendix A presents the Maintenance Engineering Contract Requirements Study Specifications presented initially in Table 3.1 (DID number sequence) in order of the Office of Primary Responsibility. Figure A-1 provides information on how to read Table A-1.

TABLE A-1.1 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DIO) REVIEW

PAGE 1 DATE 05/20/80

OFFICE OF PRIMARY RESPONSIBILITY SEQUENCE

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0 1 3 3 0 4 0 0 D Y D C
A C 8 9 8 L L L
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8

DIO NUMBER	TITLE	DDC DATE	OFFICE OF PRIMARY RESPONS	EXP DATE
DI-AP-2208	CONTRACTOR RECD CODING LISTS RECDNS - SUBSTANTIATING DATA			X
UDI-S-21084	PLAN, TRAINING AND TRAINING EQUIPMENT REQUIREMENTS			X
DI-L-30316	LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA			
DI-L-30317	LOGISTIC SUPPORT ANALYSIS (LSA) PLAN	09OCT75	AFSC	X
UDI-V-21028	LIST, LONG LEAD TIME	09OCT75	AFSC	X
DI-N-2092	REPORT, TECHNICAL MANUAL STATUS	31JUL72	AIR-J12	X
UDI-N-21021	LIST, TECHNICAL MANUAL DATA (TMOL)	30JUN72	AIR-04A4	X
UDI-L-21011	PROPOSAL, INTEGRATED LOGISTIC SUPPORT SECTION	31JUL72	AIR-04A4	X
UDI-L-21012	INTEGRATED LOGISTIC SUPPORT PLAN (ILSP)	31JUL72	AIR-401	X
UDI-R-21014	RECORD, LOGISTIC SUPPORT ANALYSIS	31JUL72	AIR-401	X
UDI-R-21015	REPORT, LOGISTIC ENGINEERING PROGRESS	31JUL72	AIR-401	X
UDI-V-21016	ITEMS, LIST OF THROW-AWAY	31JUL72	AIR-401	X
UDI-R-21017	PLAN, INT LOG SPRT (ILSP) LOG SPRT ANALYSIS SECTION	31JUL72	AIR-401	X
UDI-H-21019	PLAN, INT LOG SPRT PERSONNEL TRAINING - TRAINING EQUIP SECT	31JUL72	AIR-401	X
UDI-L-21020	PLAN, INT LOG SPRT (ILSP) TECH MANUAL SECTION	31JUL72	AIR-401	X
UDI-V-21025	PLAN, INT LOG SPRT (ILSP) SPARES - REPAIR PARTS SECTION	31JUL72	AIR-401	X
UDI-L-21036	SPECIFICATION, ILS DETAIL	31JUL72	AIR-401	X
UDI-P-21037	DOC, FACIL REQNTS FOR TYPL SHOREBASED SITES	31JUL72	AIR-401	X
UDI-P-21038	REPORT, SITE EVALUATION	31JUL72	AIR-401	X
UDI-P-21039	PLAN, SUPPORT SITE ACTIVATION	31JUL72	AIR-401	X
UDI-P-21040	DATA PACKAGE, SUPPORT SITE ACTIVATION	31JUL72	AIR-401	X
UDI-S-21047	DATA, REQUIREMENTS, ILS EVALUATION, PHASE II - III	31JUL72	AIR-401	X
UDI-S-21048	PLAN, DETAILED, ILS EVALUATION, PHASE I-II	31JUL72	AIR-401	X

TABLE A-1.2 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (UID) REVIEW

PAGE 2 DATE 05/20/80

OFFICE OF PRIMARY RESPONSIBILITY SEQUENCE

UID NUMBER TITLE

U01-S-21049	PLAN, INT LOG SPRT (ILSP) EVALUATION SECTION
U01-L-21054	PLAN, INT LOG SPRT (ILSP) PKG, HDLG, STORAGE & TRANSP SECTION
U01-E-21055	ANALYSIS, SITE LOADING IMPACT
U01-E-21064	PLAN, INT LOG SPRT (ILSP) ENRG CHANGE SPRT SECT
U01-E-21065	PLAN, INT LOG SPRT DEPOT & INTER REMORK SPRT SECT
U01-S-21070	PLAN, INT LOG SPRT SITE/UNIT ACTIVATION SECT
U01-S-21078	DIAGRAMS, ENGINEERING AND PRODUCTION EVENT/FLOW
U01-S-21079	MANUAL, CDC CODE
U01-S-21080	DOCUMENTATION, CDC PROGRAM
U01-S-21081	TAPE FILE, SPECIAL
U01-S-21082	PLAN, INT LOG SPRT CONTRACTOR DATA COLLECTION SECT
U01-P-21083	PLAN, INT LOG SPRT (ILSP) FACILITIES SECTION
U01-S-21202	ANALYSIS DATA, MAINTENANCE ENGINEERING
U01-S-21202	ANALYSIS DATA, MAINTENANCE ENGINEERING
U01-L-21328A	PLAN, OPERATIONAL LOGISTICS SUPPORT (OLSP)
U01-A-21190	PLAN, INT LOG SPRT GROUND SPRT EQUIPT SECTION
U01-V-21042A	LIST, SUPPORT MATERIAL (SML), PREOPERATIONAL (INTERIM)
U01-V-21044	REPORT, TRANSITION STATUS
U01-V-21045A	REPORT, RESIDUAL ASSET, PREOPERATIONAL (INTERIM)
U01-E-21057	WORKLOAD, RETROFIT INCORPORATION
U01-S-21060	TEST, EVAL/OR DEMO TEST ARTICLE CONFIG
U01-AL-3023	SUPPORT EQUIPMENT LIST (LIMITED TO HARPOON SYSTEM)
U01-L-21013C	PLANS, MAINTENANCE

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31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
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31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
31JUL72	AIR-401	X
17FEB76	AIR-401	X
31JUL72	AIR-401	X
30APR74	AIR-410	X
31JUL75	AIR-410	X
30APR75	AIR-410	X
31JUL72	AIR-410	X
31JUL72	AIR-410	X
18JAN71	AIR-41042	X
24SEP76	AIR-411	X

TABLE A-1.3 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 3 DATE 05/20/80

OFFICE OF PRIMARY RESPONSIBILITY SEQUENCE

REQUIREMENT BY

DID NUMBER	TITLE	DNC DATE	OFFICE OF PRIMARY RESPONS	EXP DATE	A	A	M	M	MA	AN	AC
UDI-L-21013C	PLANS, MAINTENANCE	24SEP76	AIR-411		X						
UDI-L-21069	CANDIDATE LIST, ANALYTICAL REWORK PROGRAM (ARP)	31JUL72	AIR-411		X						
UDI-L-21499	DATA, MAINTENANCE PLAN ANALYSES	NONE	AIR-411								
UDI-V-21026A	DATA, PROVISIONING SCREENING	30APR74	AIR-412		X	X					
UDI-V-21027	INSTRUCTIONS, PROVISIONING LIST FORMAT (NONDELIVERABLE)	31JUL72	AIR-412		X						
UDI-V-21027	INSTRUCTIONS, PROVISIONING LIST FORMAT (NONDELIVERABLE)	31JUL72	AIR-412		X						
UDI-V-21029	LIST, BULK ITEMS/EARLY OVERHAUL AND CRASH DAMAGE MATERIALS	31JUL72	AIR-412		X						
UDI-V-21030	LIST, GROUP ASSEMBLY PROVISIONING (GAPL)	31JUL72	AIR-412		X						
UDI-V-21031	LIST, VENDOR REPAIRABLE ITEMS	31JUL72	AIR-412		X						
UDI-V-21032	LIST, CONSUMABLE MAINTENANCE AND OVERHAUL MATERIAL	31JUL72	AIR-412		X						
UDI-V-21033A	DESIGN CHANGE NOTICE (DCN)	30APR74	AIR-412		X						
UDI-V-21034	REPORT, DELIVERY/DELINQUENCY	31JUL72	AIR-412		X						
UDI-V-21035A	SCHEDULE, DELIVERY	30APR74	AIR-412		X						
UDI-V-21041	PLAN, INT LOG SPT (ILSP) PREOPER (INTERIM) SPT SECTION	31JUL72	AIR-412		X						
UDI-V-21053A	REPORT, CONSUMPTION/USAGE	30APR75	AIR-412		X						
UDI-L-21050	LIST, ITEMS REQ SPEC HOLG BET/WITHIN MAINT - SUPPLY DEPTS	31JUL72	AIR-412		X						
DI-L-21051A	LIST, GENERAL PACKAGING, HOLG, STORAGE, - TRANSP DATA	25JAN78	AIR-412		X						
UDI-L-21052	FLOW DIAGRAM, LOGISTIC	31JUL72	AIR-412		X						
UDI-V-21144A	SPT MATERIAL LIST FOR OPNL FLT TRAINER (LTD TO F-14A)	03JAN72	AIR-4132		X						
UDI-M-21018	PLAN, CETS (CONTRACTOR ENGRG - TECH SERVICES) RFQTS	31JUL72	AIR-414		X						
UDI-T-21005C	SUMMARY, CALIBRATION/MEASUREMENT REQUIREMENTS (CHRS)	01FEB74	AIR-417		X	X					
UDI-L-21395	PLANS, MAINTENANCE, FOR GSE	22OCT74	AIR-417		X						
UDI-R-21131	REPORT, RELIABILITY AND MAINTAINABILITY PROGRAM	09AUG73	AIR-5205		X						

TABLE A-1., MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (OID) REVIEW

PAGE 4 DATE 05/20/80

OFFICE OF PRIMARY RESPONSIBILITY SEQUENCE

REQUIRED BY

DIO NUMBER	TITLE	DOC DATE	OFFICE OF PRIMARY RESPONS	EXP DATE	A	A	M	M	M	NA	AD	AC
UDI-A-210008	PLAN, GROUND SUPPORT EQUIPMENT (GSEP)	NONE	AIR-534		X							
UDI-F-21001E	DATA RECOMMENDATION, GROUND SUPPORT EQUIPMENT (GSEID)	03JUN76	AIR-534		X	X						
UDI-L-21002D	LIST, CONSOLIDATED GROUND SUPPORT EQUIPMENT (GSEL)	01APR75	AIR-534		X	X						
UDI-L-21003C	LIST, STANDARD/MODIFIED HAND TOOLS (LSMHT)	01FEB74	AIR-534		X	X						
UDI-S-21004C	ILLUSTRATIONS, GROUND SUPPORT EQUIPMENT (GSEI)	01FEB74	AIR-534		X	X						
UDI-P-21006D	DATA, INSTALLATION, GROUND SUPPORT EQUIPMENT (GSEID)	26APR76	AIR-534		X	X						
UDI-F-21007C	REPORT, GROUND SUPPORT EQUIPMENT END ITEM FUNDING (GSEIFR)	01FEB74	AIR-534		X	X						
UDI-L-21008C	REPORT, GROUND SUPPORT EQUIPMENT DELIVERY SCHEDULE/DELINQUENCY	01FEB74	AIR-534		X	X						
UDI-F-21009C	LIST, PROCD GROUND SUPPORT EQUIPMENT (PGSEL)	01FEB74	AIR-534		X	X						
UDI-F-21010C	EXHIBIT, GROUND SUPPORT EQUIPMENT PROPOSED REVISION	01FEB74	AIR-534		X	X						
UDI-L-21468	LIST, CONSOL GSE FOR FOREIGN MIL SALES (FMSCGSEL) (LTD TO FHS)	01APR76	AIR-534		X							
DI-S-6169	OPTIMUM REPAIR LEVEL ANALYSIS (ORIA) REPORT	30APR71	ANC			X						
DI-S-6171A	LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA	25FEB77	DARCOM			X						
DI-S-7017	LOGISTIC SUPPORT ANALYSIS (LSA) PLAN	20OCT75	ORCDE			X						
UDI-L-22338A	REPORT, PARTS AND MATERIAL ISSUE	01JUL76	ELEX-6042			X						
UDI-L-22341A	REPORT, LOGISTICS DESIGN APPRAISAL (LDA)	17AUG76	ELEX-6042			X						
UDI-L-22332C	PLAN, PROGRAM, LEVEL OF REPAIR (GOVERNMENT ANALYSIS)	03MAY77	ELEX-6602				X					
DI-P-6165A	REPORT, SUPPORT EQUIPMENT DELIVERY SCHEDULE/DELINQUENCY	08FEB77	MAT	31DEC79		X						
DI-M-2025	REPORT, ANALYSIS, TASK AND SKILL	06DEC76	MAT-042			X						
DI-A-5102A	SUPPORT EQUIPMENT PLAN (SEP)	08FEB77	MAT-042	31DEC79		X						
DI-V-6165A	STANDARD/MODIFIED HAND TOOLS LIST	08FEB77	MAT-042			X						
DI-L-2082A	REPORT, LOR (LEVEL OF REPAIR) SUMMARY	05SEP75	MAT-0422				X					
DI-L-2083A	REPORTS, LOR (LEVEL OF REPAIR) STATUS	05SEP75	MAT-0422				X					

TABLE A-1. MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 3 DATE 05/20/80

OFFICE OF PRIMARY RESPONSIBILITY SEQUENCE

DIO NUMBER	TITLE
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DI-L-2084A PLAN, LOR (LEVEL OF REPAIR) PROGRAM

01-1-2095A REPORT, LOR (LEVEL OF REPAIR) ANALYSIS

01-4-2155 REPORT, LNR (LEVEL OF REPAIR) INPUT DATA

DI-V-6103A LIST, CONSOLIDATED SUPPORT EQUIPMENT (CSEL)

DI-S-5376 SUPPORT ANALYSIS REPORT

01-V-2075 CERTIFICATE OF PRIOR SUBMISSION

UOI-V-26479 LONG LEAD TIME ITEMS LIST

DI-1-2100 LIST: ENGINEERING DOCUMENT REQUIREMENTS (EDRL)

VDI-1-23416 LIST, SHIP INITIAL ON-BOARD OPERG SPACE ITEM INVENTORY

UDOL-1-23057A DOCUMENTATION, LOGISTIC SUPPORT ANALYSIS (LSA)

UDI-L-23404 COUNT-MEA SYS EMPTY CABLE REELS REQ, DISP INSTR FOR SHIP MINE

01-V-2076A COMMON AND BULK ITEMS LIST

01-V-2077A DESIGN CHANGE NOTICE (DCN)

DI-V-2078A PROVISIONING PARTS LIST

01-V-2079A REPAIRABLE ITEMS LIST

DI-V-2081A	LONG LEAD TIME ITEMS LIST
1	...
2	...
3	...
4	...
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97	...
98	...
99	...
100	...

А = 03071030

A A M H NA AD AC
 R R S S 00- MN MA
 3 2 1 2 25- SL SM
 0 1 3 3 0 400 DY DC
 A C 8 9 8 L LE
 8 0 0 L

	DOC	OFFICE OF	PRIMARY	EXP
	DATE		RESPONS	DATE

05SEP75 MAT-0422

05SEP75 MAY-0422

G5SEP75 MAY-0422

25MAY77 NMC

03JAN74 NSA

11 AUG 72 SA.

27JUL73 SEA-04431

150CT73 SEA-045X

31 JUL 72 SEA-0461

10APR74 SEA-0461

01APR72 SEA-65161

03 JUL 73 SUP-0423

03JUL73 SUP-0423

03 JUL 73 SUP-0423

03 JUL 73 SUP-0423

03 JUL 73 SUP-0423

APPENDIX B

Maintenance Engineering Contract Requirements Study
Specifications and Data Item Description (DID) Review

- Subject Code Letter Sequence -

Appendix B

Appendix B presents the Maintenance Engineering Contract Requirements Study Specifications presented initially in Table 3.1 (DID number sequence) in order of the Subject Letter Code. Figure B-1 provides information on how to read Table B-1.

Date Prepared
(as of)

PAGE 1 DATE 05/20/80

Title

TABLE 3-1-1
MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

AMSOL
Status

Source Document

DID NUMBER	TITLE	NOC DATE	OFFICE OF PRIMARY RESPONS	EXP DATE	REQUIRED BY	AMSOL Status
DI-AP-2208	CONTRACTOR RECD CODING LISTS RECDMS - SUBSTANTIATING DATA	06DEC76	MAI-042		X	X
DI-N-2025	REPORT, ANALYSIS, TASK AND SKILL	30JUN72	AIW-0444		X	X
DI-N-2032	REPORT, TECHNICAL MANUAL STATUS	11AUG72	SA		X	X
DI-V-2075	CERTIFICATE OF PRIOR SUBMISSION	03JUL73	SUP-0423		X	X
DI-V-2076A	COMMON AND BULK ITEMS LIST	03JUL73	SUP-0423		X	X
DI-V-2077A	DESIGN CHANGE NOTICE (DCN)	03JUL73	SUP-0423		X	X
DI-V-2078A	PROVISIONING PARTS LIST	03JUL73	SUP-0423		X	X
DI-V-2079A	REPAIRABLE ITEMS LIST	03JUL73	SUP-0423		X	X
DI-V-2081A	LONG LEAD TIME ITEMS LIST	03JUL73	SUP-0423		X	X

Subject Code Letter(s)

A Administrative/Management
E Engineering and Configuration Documentation
F Financial
H Human Factors
L Logistic Support
M Technical Publications
P Procurement/Production
R Related Design Requirement
S System/Subsystem Analysis
T Test
V Provisioning
D Data Item Description (DID) Numbering System

DID Number

Indicates DID is
Noted as Cancelled
by AMSOL

Date of DID

Cited OPR

Figure B-1 Explanation of Table B-1 DID Number Sequence Listing

TABLE B-1.1 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 1 DATE 05/20/80

SUBJECT CODE LETTER SEQUENCE

MEQUAREC .Y

A A M M NA AD AC
R R S S 00-MN MA
3 2 1 1 2 25-SL SM
0 1 3 3 0 400 DY DC
A C 8 9 8 L LE
8 0 0 L
B

DID NUMBER	TITLE	DDC DATE	OFFICE OF PRIMARY RESPONDS	EXP DATE
UDI-AL-5023	SUPPORT EQUIPMENT LIST (LIMITED TO HARPOON SYSTEM)	18JAN71	AIR-41042	
DI-AP-2208	CONTRACTOR RECMD CODING LISTS RECDMS - SUBSTANTIATING DATA			
DI-A-6102A	SUPPORT EQUIPMENT PLAN (SEP)	08FEB77	MAT-042	31DEC79
UDI-A-210008	PLAN, GROUND SUPPORT EQUIPMENT (GSEP)	NONE	AIR-534	
UDI-A-21190	PLAN, INT LOG SPRT GROUND SPRT EQUIPT SECTION	31JUL72	AIR-4014	
UDI-E-21001E	DATA RECOMMENDATION, GROUND SUPPORT EQUIPMENT (GSEED)	03JUN76	AIR-534	
UDI-E-21055	ANALYSIS, SITE LOADING IMPACT	31JUL72	AIR-401	
UDI-E-21057	WORKLOAD, RETROFIT INCORPORATION	31JUL72	AIR-410	
UDI-E-21064	PLAN, INT LOG SPRT (ILSP) ENGRG CHANGE SPRT SECT	31JUL72	AIR-401	
UDI-E-21065	PLAN, INT LOG SPRT DEPOT - INTER REWORK SPRT SECT	31JUL72	AIR-401	
UDI-F-21007C	REPORT, GROUND SUPPORT EQUIPMENT END ITEM FUNDING (GSEIFR)	01FEB74	AIR-534	
UDI-F-21009C	LIST, PROCED GROUND SUPPORT EQUIPMENT (PGSEL)	01FEB74	AIR-534	
UDI-F-21010C	EXHIBIT, GROUND SUPPORT EQUIPMENT PROPOSED REVISION	01FEB74	AIR-534	
DI-H-2025	REPORT, ANALYSIS, TASK AND SKILL	06DEC76	MAT-042	
UDI-H-21018	PLAN, SETS (CONTRACTOR ENGRG - TECH SERVICES) REOTS	31JUL72	AIP-414	
UDI-H-21019	PLAN, INT LOG SPRT PERSONNEL TRAINING - TRAINING EQUIP SECT	31JUL72	AIR-401	
DI-L-2082A	REPORT, LOR (LEVEL OF REPAIR) SUMMARY	05SEP75	MAT-0422	
DI-L-2083A	REPORTS, LOR (LEVEL OF REPAIR) STATUS	05SEP75	MAT-0422	
DI-L-2084A	PLAN, LOR (LEVEL OF REPAIR) PROGRAM	05SEP75	MAT-0422	
DI-L-2085A	REPORT, LOR (LEVEL OF REPAIR) ANALYSIS	05SEP75	MAT-0422	
DI-L-2100	LIST, ENGINEERING DOCUMENT REQUIREMENTS (EDRL)	15OCT73	SEA-049X	
DI-L-2155	REPORT, LOR (LEVEL OF REPAIR) INPUT DATA	05SEP75	MAT-0422	
UDI-L-21002D	LIST, CONSOLIDATED GROUND SUPPORT EQUIPMENT (CGSEL)	01APR75	AIR-534	

TABLE B-1.2 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DIO) REVIEW

PAGE 2 DATE 05/20/90

SUBJECT LOWE LETTER SEQUENCE

DIO NUMBER - - - - - TITLE - - - - -

UD1-L-21003C LIST, STANDARD/MODIFIED HAND TOOLS (LSMHT)

UD1-L-21008C REPORT, GROUND SUPPORT EQUIPMENT DELIVERY SCHEDULE/DELINQUENCY

UD1-L-21011 PROPOSAL, INTEGRATED LOGISTIC SUPPORT SECTION

UD1-L-21012 INTEGRATED LOGISTIC SUPPORT PLAN (ILSP)

UD1-L-21013C PLANS, MAINTENANCE

UD1-L-21013C PLANS, MAINTENANCE

UD1-L-21020 PLAN, INT LOG SPRT (ILSP) TECH MANUAL SECTION

UD1-L-21036 SPECIFICATION, ILS DETAIL

UD1-L-21050 LIST, ITEMS REGG SPEC MDLG BET/WITHIN MAINT - SUPPLY DEPTS

DI-L-21051A LIST, GENERAL PACKAGING, MDLG, STORAGE, - TRANSP DATA

UD1-L-21052 FLOW DIAGRAM, LOGISTIC

UD1-L-21054 PLAN, INT LOG SPRT (ILSP) PKG, MDLG, STORAGE - TRANSP SECTION

UD1-L-21069 CANDIDATE LIST, ANALYTICAL REWORK PROGRAM (ARP)

UD1-L-21320A PLAN, OPERATIONAL LOGISTICS SUPPORT (OLSP)

UD1-L-21395 PLANS, MAINTENANCE, FOR GSE

UD1-L-21448 LIST, CONSLO GSE FOR FOREIGN MIL SALES (FMSCGSEL) (LTD TO FMS)

UD1-L-21499 DATA, MAINTENANCE PLAN ANALYSES

UD1-L-22332C PLAN, PROGRAM, LEVEL OF REPAIR (GOVERNMENT ANALYSIS)

UD1-L-22330A REPORT, PARTS AND MATERIAL ISSUE

UD1-L-22341A REPORT, LOGISTICS DESIGN APPRAISAL (LDA)

UD1-L-23404 COUNT-MEA SYS EMPTY CABLE REELS REQ, DISP INSTR FOR SHIP MINE

UD1-L-23416 LIST, SHIP INITIAL ON-BOARD OPERG SPACE ITEM INVENTORY

UD1-L-23857A DOCUMENTATION, LOGISTIC SUPPORT ANALYSIS (LSA)

REQUIRED BY

A A M M M A A D AC
R R S S S O O- M M MA
3 2 1 1 2 25- S L SM
0 1 3 3 0 400 D Y OC
A C 8 9 8 L L L
8 0 0 0 8

EXP
DATE

OFFICE
OF
PRIMARY
RESPONS

DNC
DATE

AIR-534

AIR-534

AIR-601

AIR-601

AIR-411

AIR-411

AIR-401

AIR-401

AIR-412

AIR-412

AIR-412

AIR-401

AIR-411

AIR-401

AIR-417

AIR-534

AIR-411

ELEX-4602

ELEX-4042

ELEX-4042

SEA-65161

SEA-0461

SEA-0461

TABLE 9-1.3 MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 3 DATE 05/20/80

SUBJECT CODE LETTER SEQUENCE

DID NUMBER - - - - - TITLE - - - - -

01-L-30316 LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA

01-L-30317 LOGISTIC SUPPORT ANALYSIS (LSA) PLAN

01-N-2052 REPORT, TECHNICAL MANUAL STATUS

UD1-N-21021 LIST, TECHNICAL MANUAL DATA (TMOL)

01-P-6165A REPORT, SUPPORT EQUIPMENT DELIVERY SCHEDULE/DELINQUENCY

UD1-P-21060 DATA, INSTALLATION, GROUND SUPPORT EQUIPMENT (GSEID)

UD1-P-21037 DOCT, FACIL REHTS FOR TYPL SHOREBASED SITES

UD1-P-21038 REPORT, SITE EVALUATION

UD1-P-21039 PLAN, SUPPORT SITE ACTIVATION

UD1-P-21040 DATA PACKAGE, SUPPORT SITE ACTIVATION

UD1-P-21083 PLAN, INT LOG SPRT (ILSP) FACILITIES SECTION

UD1-P-21014 RECORD, LOGISTIC SUPPORT ANALYSIS

UD1-R-21019 REPORT, LOGISTIC ENGINEERING PROGRESS

UD1-R-21017 PLAN, INT LOG SPRT (ILSP) LOG SPRT ANALYSIS SECTION

UD1-R-21131 REPORT, RELIABILITY AND MAINTAINABILITY PROGRAM

01-S-5376 SUPPORT ANALYSIS REPORT

01-S-6169 OPTIMUM REPAIR LEVEL ANALYSIS (ORLA) REPORT

01-S-6171A LOGISTIC SUPPORT ANALYSIS RECORD (LSAR) DATA

01-S-7017 LOGISTIC SUPPORT ANALYSIS (LSA) PLAN

UD1-S-21006C ILLUSTRATIONS, GROUND SUPPORT EQUIPMENT (GSEI)

UD1-S-21047 DATA, REQUIREMENTS, ILS EVALUATION, PHASE II - III

UD1-S-21040 PLAN, DETAILED, ILS EVALUATION, PHASE I-II

UD1-S-21049 PLAN, INT LOG SPRT (ILSP) EVALUATION SECTION

REQUIREMENT

A A M M M NA AD AC
R R S S S 00- MN MA
3 2 1 1 2 25- SL SN
0 1 3 3 0 400 DY DC
A C 8 9 8 L LE
8 0 0 L
8

OFFICE
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PRIMARY
RESPONS

EXP
DATE

DNC
DATE

AFSC

AFSC

AIR-04A4

AIR-04A4

31DEC79

MAT

AIR-534

AIR-401

AIR-401

AIR-401

AIR-401

AIR-401

AIR-401

AIR-401

AIR-5205

NSA

ANC

DARCOM

DRCODE

AIR-534

AIR-401

AIR-401

AIR-401

TABLE 9-1.. MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 4 DATE 05/20/80

SUBJECT CODE LEFT P SEQUENCE

DID NUMBER - - - - - TITLE - - - - -

U01-S-21060 TEST, EVAL/OR DEMO TEST ARTICLE CONFIG
U01-S-21070 PLAN, INT LOG SPRT SITE/UNIT ACTIVATION SECT
U01-S-21070 DIAGRAMS, ENGINEERING AND PRODUCTION EVENT/FLOW
U01-S-21079 MANUAL, CDC CODE
U01-S-21080 DOCUMENTATION, CDC PROGRAM
U01-S-21081 TAPE FILE, SPECIAL
U01-S-21082 PLAN, INT LOG SPRT CONTRACTOR DATA COLLECTION SECT
U01-S-21084 PLAN, TRAINING AND TRAINING EQUIPMENT REQUIREMENTS
U01-S-21202 ANALYSIS DATA, MAINTENANCE ENGINEERING
U01-S-21202 ANALYSIS DATA, MAINTENANCE ENGINEERING
U01-T-21009C SUMMARY, CALIBRATION/MEASUREMENT REQUIREMENTS (CMRS)
01-V-2075 CERTIFICATE OF PRIOR SUBMISSION
01-V-2076A COMMON AND BULK ITEMS LIST
01-V-2077A DESIGN CHANGE NOTICE (DCN)
01-V-2078A PROVISIONING PARTS LIST
01-V-2079A REPAIRABLE ITEMS LIST
01-V-2081A LONG LEAD TIME ITEMS LIST
01-V-2103A LIST, CONSOLIDATED SUPPORT EQUIPMENT (CSEL)
01-V-2103A STANDARD/MODIFIED HAND TOOLS LIST
U01-V-21010 ITEMS, LIST OF THROW-AWAY
U01-V-21025 PLAN, INT LOG SPRT (ILSP) SPARES - REPAIR PARTS SECTION
U01-V-21026A DATA, PROVISIONING SCREENING
U01-V-21027 INSTRUCTIONS, PROVISIONING LIST FORMAT (NONDELIVERABLE)

PEQUINER JV
A A M M M MA AD AC
R R S S S 00- MM MA
3 2 1 1 2 25- SL SN
0 1 3 3 0 400 DY DC
A C 0 9 8 L LE
0 0 0 L
0 0 0 L

OFFICE
OF
PRIMARY
RESPONS
EXP
DATE

DOC
DATE

31JUL72 AIR-410

31JUL72 AIR-401

31JUL72 AIR-401

31JUL72 AIR-401

31JUL72 AIR-401

31JUL72 AIR-401

31JUL72 AIR-401

31JUL72 AIR-401

31JUL72 AIR-401

01FEB74 AIR-417

11AUG72 SA

03JUL73 SUP-0423

03JUL73 SUP-0423

03JUL73 SUP-0423

03JUL73 SUP-0423

03JUL73 SUP-0423

25MAY77 NMC

08FEB77 MAT-042

31JUL72 AIR-401

31JUL72 AIR-401

30APR74 AIR-412

31JUL72 AIR-412

TABLE B-1. MAINTENANCE ENGINEERING CONTRACT REQUIREMENTS STUDY
SPECIFICATIONS AND DATA ITEM DESCRIPTION (DID) REVIEW

PAGE 5 DATE 05/20/80

SUBJECT CODE LETTER SEQUENCE

DID NUMBER TITLE

UDI-V-21027 INSTRUCTIONS, PROVISIONING LIST FORMAT (NONDELIVERABLE)
UDI-V-21028 LIST, LONG LEAD TIME
UDI-V-21029 LIST, BULK ITEMS/EARLY OVERHAUL AND CRASH DAMAGE MATERIALS
UDI-V-21030 LIST, GROUP ASSEMBLY PROVISIONING (GAPL)
UDI-V-21031 LIST, VENDOR REPAIRABLE ITEMS
UDI-V-21032 LIST, CONSUMABLE MAINTENANCE AND OVERHAUL MATERIAL
UDI-V-21033A DESIGN CHANGE NOTICE (DCN)
UDI-V-21034 REPORT, DELIVERY/DELINQUENCY
UDI-V-21035A SCHEDULE, DELIVERY
UDI-V-21041 PLAN, INT LOG SPRT (ILSP) PREOPER (INTERIM) SPRT SECTION
UDI-V-21042A LIST, SUPPORT MATERIAL (SML), PREOPERATIONAL (INTERIM)
UDI-V-21043A REPORT, CONSUMPTION/USAGE
UDI-V-21044 REPORT, TRANSITION STATUS
UDI-V-21045A REPORT, RESIDUAL ASSET, PREOPERATIONAL (INTERIM)
UDI-V-21144A SPRT MATERIAL LIST FOR OPNL FLT TRAINER (LTD TO F-14A)
UDI-V-26479 LONG LEAD TIME ITEMS LIST

REQUIRED BY
A A M M M M A A A C
R R S S S S 00- MN MA
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A C 0 9 8 L LE
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OFFICE
OF
PRIMARY
RESPONS
DNC
DATE
EXP
DATE

31JUL72 AIR-412 X
31JUL72 AIR-412 X
31JUL72 AIR-412 X
31JUL72 AIR-412 X
31JUL72 AIR-412 X
31JUL72 AIR-412 X
30APR74 AIR-412 X
31JUL72 AIR-412 X
30APR74 AIR-412 X
31JUL72 AIR-412 X
30APR74 AIR-410 X
30APR75 AIR-412 X
31JUL75 AIR-410 X
30APR75 AIR-410 X
03JAN72 AIR-4132 X
27JUL73 SEA-04431 X

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APPENDIX C

Data Item Description Versus Data
Element Requirements Matrix

Appendix C

Appendix C summarizes all of the individual data elements called out within each DID for the DID's covered by this study. A data element is the smallest identifiable portion of the DID and would include items/values to be calculated or presented in tables, subject areas, etc. Table C-1 presents the data elements and includes a count of the number of times that element was called for.

UD I

UD I

[illegible]

ACTION TAKEN

AIRCRAFT STATUS

ALLOWANCE	QUANTITY
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

ANALYTICAL PROCEDURE

APPROVAL BY AND DATE

ATTACHMENTS, MEANS A

BCM, RATE

CALIBRATION RE

CFE/GFE

CLIMATI

COMPUTER PROGRAMMER

CONCEPT FOR SYSTEM COVERAGE

CONFIGURATION DEFINITION OF

CONSUMPTION RATE

CONTRACTOR FURNISH

CONTRACTOR RESPONSIBILITIES - GOV'T, INTERREL

CONTRACTORS ORGANIZATION

CONVERSION FACTOR (CF) (DEGRADATION)

COST OF ENTERING ITEM INTO SUPPLY SYSTEM

COST TRADE-OFF MODEL

UDI/DI DESCRIPTION NUMBER

[illegible]

Hours per week (x)	Hours per week (y)
1	9
2	8
2	7
3	6
3	5
4	4
4	3
5	2
5	1
6	0
7	0
8	0
9	0
10	0

COUNT

	X	1
X		1
		1
	X	1
		1
	X	1
		2
		1
		5
		2
	X	3
		1
	X	1
		3
		2
		1
	X	4
		2
	X X	12
		1
	X	1
X		1
X		1
		1
		1
		1
	X	1
		1
		8
		1
		8
X		11
		1
X		6
	X	1
	X	1
		1
		2

13

DATA ELEMENT TITLES

[illegible]

COST/UNIT PRICE
COST/YR RETAINING ITEM INTO SUPPLY SYSTEM
COST, DEVELOPMENT
COST, TOTAL
CRITICAL ITEM LIASON
CRITICALITY ASPECTS
CROSS-REFERENCE INDEX/LIST
CUBE
DATA FLOW CHART
DATA FLOW DIAGRAM OF KEY ELEMENTS
DATA SOURCE
DATE
DEF INTERRELATIONSHIPS OF FACIL GSE/SITE UNIT ACTVN
DELIVERY DATE, SCHEDULED
DELIVERY METHOD
DELIVERY SCHEDULE, BY DATE
DEMILITARIZATION CODE
DEPOT TASK DESCRIPTION & ANALYSIS
DESIGN CHANGE NOTICE NUMBER
DESIGN CHANGE PLANS
DESIGN CHARACTERISTICS
DESIGN CONSTRAINTS IMPACT
DESIGN CRITERIA
DESIGN DESCRIPTION
DESIGN/DESIGN CHANGE REVIEW
DEVELOPMENTAL PRICE
DIMENSIONS
DISPOSITION INSTRUCTIONS
DOCUMENT TITLE
DOCUMENT TYPE
DOCUMENTATION COST ≤ DISCARD
DOCUMENTATION COST ≤ REPAIR
DOCUMENTATION COST/PAGE
DOCUMENTATION DEVELOPMENT COST
DRAWING IDENTIFICATION
DRAWING NUMBER/PART NUMBER
FCP
FCP NUMBER
FCP, OPTIMUM INSTALLATION SEQUENCE

UDI/DI DESCRIPTION NUMBER

D	D	D	D	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
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The image shows a document page with horizontal lines. There are several 'x' marks scattered across the page, some appearing to be part of a list or data points. The marks are located at various positions: near the top left, top center, top right, middle left, middle center, middle right, bottom left, and bottom center. The overall appearance is that of a scanned document with high contrast.

DATA ELEMENT TITLES

UD

1

“ “ “

[illegible]

ELAPSED TIME (TASK)
ELAPSED TIME ALLOCATED
ELAPSED TIME MEASURED
ELAPSED TIME PREDICTED
ELAPSED TIME SCALE
EMPTY CABLE REELS LIST
END ITEM APPLICATION
END ITEM MAINTENANCE PLAN
END ITEM SPECIFICATION
ENGRG CHANGE INCORPORATION PROCESS
ENVIRONMENTAL CONSIDERATIONS
EQUIPMENT PHYSICAL PROPERTIES
EQUIPMENT SCHEDULED FOR ANALYSIS
EQUIPMENT SIMILARITY
ESTIMATED DATA, LAST REPAIRABLE ITEM RETURN
ESTIMATED DATE FIRST ARTICLE
ESTIMATION PROCEDURE
EVENT NAMES
FACIL GOVNMNT ACT AFFECTING CONTRACTOR EFFORT,DESCRP
FACIL PORTIONS AFFECTING CONTRACTOR SPRT DESCRIP OF
FACILITIES ANALYSIS, EXISTING SITE
FACILITIES DESIGN CRITERIA
FACILITIES INSTALLATION LEADTIMES
FACILITIES MOD/ALT RECOMMENDATIONS
FACILITIES REQMTS
FACILITY CATEGORY CODE
FACILITY REQMTS CODE
FACILITY UTILIZATION
FAIL SAFE CHARACTERISTICS
FAILURE CAUSES
FAILURE DISTRIBUTION CURVE
FAILURE HISTORY
FAILURE MODE
FAILURE RATE
FEDERAL SUPPLY CLASS
FEDERAL SUPPLY CODE FOR MANUFACTURERS
FEDERAL/NATO-STOCK NUMBER/NATIONAL (NSN)
FINISH
FLYING HOUR PROGRAM

UDI/DI DESCRIPTION NUMBER

Y

✕

2

X

X

X

✱

X

3

✱



X

Y

3

✕

10

X

3

8

x

X

X

X

✱

✱

—

7

X

X

X

1

X

2

✱

1

X

8

COUNT

3

1

1

11

1

2

$$\frac{1}{1}$$

1

1

1.

11

1

1

$$\frac{1}{2}$$

2

i

2

11

1

7

1

1

1

1

11

1

24

145

1

1

3

DATA ELEMENT TITLES

UD 17

4

u u u

[illegible]

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2 2 5 7 7 7 7 7 8 8 8 8 8 0 5 0 7 0 6 6 7 8 8 1 0 0 0

0 5 2 5 6 7 8 9 1 2 3 4 5 0 5 2 6 2 5 9 1 3 5 7 0 0 0

B A A A A A A A A 3 A A A A A 0 1 2

B E D

FUNCTIONAL ANALYSIS

X

FUNDING SCHEDULE AND PLAN

X

X

GOVERNMENT/CONTRACTOR INTERRELATIONSHIPS CHART

~~GOVT INPUT DATA VOID~~

GROUP ASSEMBLY PROVISIONING LIST

GSE ITEMS SUMMARY

HUMAN FACTORS REQMTS

ILS COST PROPOSAL

ILS DATA FILE

ILS MANAGEMENT PROPOSAL

ILS PLANNING DATA

ILS RESOURCES AVAIL. STATUS REPORT PHASE II

ILS RESOURCES AVAIL. STATUS REPORT PHASE III

ILS TECHNICAL PROPOSAL

ILSMT ACTION

TEST SCHEDULE

IMPLEMENTATION SCHEDULE

IN-PROCESS REVIEW PLAN

INDENTURE

INITIAL OUTFITTING LIST

INITIAL SUPPORT COST

INITIAL SUPPORT POLICY

INSTALLATION FACTORS

INSTALLATION STATUS

INTERCHANGEABILITY CODE

INTERCONNECTION DEVICE APPORTIONED UNIT COST

INTERIM SUPPORT REQMTS

IN-HOUSE SERVICE SUPPORT RIGHTS

INTERVAL (TASK)

ITEM CHARACTERISTICS IDENTIFICATION

ITEM DESCRIPTION (TOOLS)

ITEM FUNCTION

ITEM NAME/NONE NCLATURE

THE UNIVERSITY OF CHICAGO

UDI/DI DESCRIPTION NUMBER

[illegible][illegible]

COUNT

23

66

13

UDI/DI DESCRIPTION NUMBER	DATE	TIME	BY	REMARKS
1	10/10/2010	10:00	1010	1010
2	10/10/2010	10:00	1010	1010
3	10/10/2010	10:00	1010	1010
4	10/10/2010	10:00	1010	1010
5	10/10/2010	10:00	1010	1010
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64	10/10/2010	10:00	1010	1010
65	10/10/2010	10:00	1010	1010
66				

[illegible]A black and white photograph of a large, empty, rectangular room with a high ceiling and a tiled floor. The room appears to be a warehouse or a large storage area. The walls are light-colored, and the floor is made of large, light-colored tiles. There are no people, furniture, or other objects visible in the room.

UDI/DI DESCRIPTION NUMBER

[illegible]

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DATA ELEMENT TITLES

[illegible][illegible]

UDI/DI DESCRIPTION NUMBER

[illegible]A grid consisting of 10 horizontal lines. Scattered 'x' marks are present at various positions across the lines. The marks are located at approximately the following coordinates (line number, horizontal position from left to right):
Line 1: (1, 48), (1, 50), (1, 52)
Line 2: (2, 6), (2, 9), (2, 46), (2, 50), (2, 64), (2, 77), (2, 83)
Line 3: (3, 48)
Line 4: (4, 82), (4, 83)
Line 5: (5, 78), (5, 79), (5, 80)
Line 6: (6, 50), (6, 51)
Line 7: (7, 4), (7, 9), (7, 13), (7, 60), (7, 82)
Line 8: (8, 9), (8, 78), (8, 79)
Line 9: (9, 9), (9, 15), (9, 34), (9, 50), (9, 60), (9, 61)
Line 10: (10, 6), (10, 29), (10, 38), (10, 84)
Line 11: (11, 2), (11, 9), (11, 10)
Line 12: (12, 31)

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[illegible][illegible]

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<u>DATA ELEMENT TITLES</u>	
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[illegible]

SUPPORT EQUIPMENT SETS (LIST)

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UDI/DI DESCRIPTION NUMBER

[illegible]A grid consisting of 10 horizontal lines. Scattered across these lines are several 'x' marks. The marks are located at various positions: some are isolated, while others are in small groups. For example, in the second line from the top, there is an 'x' near the left edge and another near the right edge. In the fifth line, there is a small cluster of three 'x' marks on the right side. The overall distribution is sparse and irregular.

V	V	S	S	S	L	L	L	L	E	E	E	E	L	S	S	S	S	S	S	P	S	R	V	A	S	L	L	L	L	L	L	L	L	L	L	V	L	L	
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	6	0	0		
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	3	3	4	4	3	3	3	4	4	8	4	3	3		
4	4	4	4	4	5	5	5	5	5	6	6	6	6	7	7	7	8	8	8	8	3	4	9	0	2	9	4	9	3	3	4	0	1	5	7	1	1		
4	5	7	8	9	0	1	2	4	5	7	0	4	5	9	0	8	9	0	1	2	3	4	1	4	0	2	8	5	9	9	2	8	1	4	6	7	9	6	7
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X		1
		1
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DATA ELEMENT TITLES

[illegible]

SUPPORT EQUIPMENT/SITE QTY		X	
SUPPORT IMPACT (QUAL MAINT REQMT)			
SUPPORT SERVICES REQMT, GOVT			
SYSTEM CONSTRAINTS			
SYSTEM DESCRIPTION		X	
SYSTEM/EQUIPENT USE			
SYSTEM/EQUIPMENT DESCRIPTION	X		
SYSTEM/EQUIPMENT MISSION			
SYSTEMS ENGRG/EFFECTIVENESS ANALYSIS			X
TASK ANALYSIS REPORT	X		
TASK FREQUENCY	X		
TASK IDENTIFICATION/DESCRIPTION	X		X
TASK INTERVAL CODE			
TASK SEQUENCE CRITICALLY CODE			
TASK SEQUENCE NUMBER			
TECHNICAL MANUAL REQUIREMENT	X		
TECHNICAL ACCOMPLISHMENTS, SIGNIFICANT			
TECHNICAL DESCRIPTION			
TECHNICAL LIASON STATUS, GFE/CFE AND VENDORS			
TECHNICAL MANUAL MANAGEMENT TEAM			
TECHNICAL MANUAL SELECTION CONFERENCE OBJECTIVES			
TECHNICAL RATIONALE			
TECHNICAL SUPPORT DATA SUMMARY			X
TECHNICAL VALIDITY OF TEST ARTICLE/SAMPLE			
TEST - EVALUATION PROGRAM			X
TIME ALLOWED OFF WEAPON (TAOW)			
TIME AWAITING PARTS		X	
TIME BETWEEN OVERHAUL			X
TIME LINE ANALYSIS			
TIME SEQUENCE NUMBER			
TOTAL ELAPSED TASK TIME			
TOTAL REMOVALS			
TRAINING (TASK)			
TRAINING CONCEPT			X
TRAINING COST/DAN, NAVY/CIVILIAN		X	
TRAINING EQUIPMENT REQUIREMENT			
TRAINING HOURS FOR DISCARD			X
TRAINING HOURS FOR REPAIR			X
TRAINING HOURS TO FAULT ISOLATE		X	

DATA ELEMENT TITLES

UD

[illegible]

TRAINING OBJECTIVES		X		
TRAINING REQUIREMENTS		X		
TRANSPORTATION & HANDLING REQHTS				
TRANSPORTATION COST			X	
TURN-AROUND TIME				
TYPE DESIGNATOR				X
TYPE ITEM CODE				X
TYPE OF STORAGE CODE				X
TYPE, MODEL, SERIES DESIGNATOR				
UNIT PRICE			X	
USABLE ON CODE			X	X
UTILITY REQHTS				
UTILIZATION RATE				
VENDOR/MANUFACTURER				X X
VIBRATION TOLERANCE				
VOLUME			X	
WEIGHT			X	X
WORK ACCOMPLISHED VS SCHEDULE SUMMARY		X		
WORK AREA CODE				
WORK BREAKDOWN STRUCTURE				X
WORK SPACE REQ'D FOR REMOVAL			X	
WORK SPACE REQUIRED FOR ITEM REPAIR			X	
WORK SPACE USAGE TIME			X	
WORK UNIT CODE/LSACN/MEACN				X
WORKSHEET IDENTIFICATION				

UDI/DI DESCRIPTION NUMBER

[illegible]A 10x10 grid of 100 squares. Each square contains a small black 'x' mark. The 'x' marks are distributed across the grid, with some squares having multiple 'x' marks. The distribution is as follows:
Row 1: 1 'x' in the 4th column, 1 'x' in the 8th column.
Row 2: 1 'x' in the 3rd column.
Row 3: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 10th column.
Row 4: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.
Row 5: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.
Row 6: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.
Row 7: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.
Row 8: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.
Row 9: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.
Row 10: 1 'x' in the 1st column, 1 'x' in the 2nd column, 1 'x' in the 3rd column, 1 'x' in the 4th column, 1 'x' in the 5th column, 1 'x' in the 6th column, 1 'x' in the 7th column, 1 'x' in the 8th column, 1 'x' in the 9th column.

